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IONOSPHERIC DATA

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IONOSPHERIC DATA

CONTENTS

TERMINOLOGY AND SCALING PRACTICES . . . . Page 5
MONTHLY AVERAGE AND MEDIAN VALUES OF IONOSPHERIC DATA . . . . Page 7

Provisional data (received by telephone or telegraph)

January 1946
Churchill, Canada (Median values) . . . . Table 1
Prince Rupert, Canada (Median values) . . . . Table 2
St. John's, Newfoundland (Median values) . . . . Table 3
Ottawa, Canada (Median values) . . . . Table 4
Boston, Massachusetts (Median values) . . . . Table 5
San Francisco, California (Median values) . . . . Table 6
Baton Rouge, Louisiana (Median values) . . . . Table 7
Maui, Hawaii (Median values) . . . . Table 8
Trinidad, Brit. West Indies (Median values) . . . . . . Table 9
Huancayo, Peru (Median values) . . . . Table 10

December 1945
Burghead, Scotland (Average values) . . . . Table 11
Adak, Alaska (Median values) . . . . Table 12
Chungking, China (Median values) . . . . Table 13
Christmas I. (Median values) . . . . Table 14
Rarotonga I. (Median values) . . . . Table 15
Kermadec Is. (Median values) . . . . Table 16
Watheroo, W. Australia (Median values) . . . . Table 17
Capetown (Simonstown), Union of S.Africa
(Average values) . . . . Table 18
Hobart, Tasmania (Median values) . . . . Table 19
Christchurch, N.Z. (Median values) . . . . Table 20
Campbell I. (Median values) . . . . Table 21

November 1945
Kermadec Is. (Median values) . . . . Table 22

Final data

January 1946
Washington, D.C. (Median values) . . . . Table 23
Figs. 1 and 2

Final data

December 1945

Fairbanks, Alaska (Median values) . . . . Table 24
Figs. 3 and 4

Oslo, Norway (Median values) . . . . Table 25
Figs. 5 and 6

Prince Rupert, Canada (Median values) . . . . Table 26
Figs. 7 and 8

Great Baddow, England (Median values) . . . . Table 27
Figs. 9 and 10

St. John's, Newfoundland (Median values) . . . . Table 28
Figs. 11 and 12

Ottawa, Canada (Median values) . . . . Table 29
Figs. 13 and 14

Boston, Massachusetts (Median values) . . . . Table 30
Figs. 15 and 16

San Francisco, California (Median values) . . . . Table 31
Figs. 17 and 18

Baton Rouge, Louisiana (Median values) . . . . Table 32
Figs. 19 and 20

Maui, Hawaii (Median values) . . . . Table 33
Figs. 21 and 22

San Juan, Puerto Rico (Median values) . . . . Table 34
Figs. 23 and 24

Guam I. (Median values) . . . . Table 35
Figs. 25 and 26

Trinidad, Brit. West Indies (Median values) . . . . Table 36
Figs. 27 and 28

Huancayo, Peru (Median values) . . . . Table 37
Figs. 29 and 30

November 1945

Fairbanks, Alaska (Median values) . . . . Table 38
Figs. 31 and 32

Great Baddow, England (Median values) . . . . Table 39
Figs. 33 and 34

St. John's, Newfoundland (Median values) . . . . Table 40
Figs. 35 and 36

Cairo, Egypt (Median values) . . . . Table 41
Fig. 37

Christmas I. (Median values) . . . . Table 42
Figs. 38 and 39

Huancayo, Peru (Median values) . . . . Table 43
Figs. 40 and 41

Christchurch, N.Z. (Median values) . . . . Table 44
Figs. 42 and 43

Final data

October 1945

Pitcairn I. (Median values) . . . . Table 45
Fig. 44

Watheroo, W. Australia (Median values) . . . . Table 46
Figs. 45 and 46

September 1945

Peshawar, India (Median values) . . . . Table 47
Figs. 47 and 48

Delhi, India (Median values) . . . . Table 48
Figs. 49 and 50

Bombay, India (Median values) . . . . Table 49
Figs. 51 and 52

Madras, India (Median values) . . . . Table 50
Figs. 53 and 54

Pitcairn I. (Median values) . . . . Table 51
Fig. 55

August 1945

Colombo, Ceylon (Median values) . . . . Table 52
Figs. 56 and 57

June 1945

Oslo, Norway (Median values) . . . . Table 53
Figs. 58 and 59

Cape York, Australia (Median values) . . . . Table 54
Figs. 60 and 61

Brisbane, Australia (Median values) . . . . Table 55
Figs. 62 and 63

Canberra, Australia (Median values) . . . . Table 56
Figs. 64 and 65

May 1945

Oslo, Norway (Median values) . . . . Table 57
Fig. 66

Cape York, Australia (Median values) . . . . Table 58
Figs. 67 and 68

Brisbane, Australia (Median values) . . . . Table 59
Figs. 69 and 70

Canberra, Australia (Median values) . . . . Table 60
Figs. 71 and 72

April 1945

Cape York, Australia (Median values) . . . . Table 61
Figs. 73 and 74

Brisbane, Australia (Median values) . . . . Table 62
Figs. 75 and 76

Canberra, Australia (Median values) . . . . Table 63
Figs. 77 and 78

Final data

March 1945
Cape York, Australia (Median values) . . . . Table 64
Figs. 79 and 80
Brisbane, Australia (Median values) . . . . Table 65
Figs. 81 and 82
Canberra, Australia (Median values) . . . . Table 66
Figs. 83 and 84

February 1945
Cape York, Australia (Median values) . . . . Table 67
Figs. 85 and 86
Brisbane, Australia (Median values) . . . . Table 68
Figs. 87 and 88
Canberra, Australia (Median values) . . . . Table 69
Figs. 89 and 90

January 1945
Cape York, Australia (Median values) . . . . Table 70
Figs. 91 and 92
Brisbane, Australia (Median values) . . . . Table 71
Figs. 93 and 94
Canberra, Australia (Median values) . . . . Table 72
Figs. 95 and 96

December 1944
Cape York, Australia (Median values) . . . . Table 73
Figs. 97 and 98

IONOSPHERIC DATA FOR EVERY DAY AND HOUR . . . . Page 9

January 1946
Washington, D.C.
h'F2 . . . . Table 74
f^oF2 . . . . Tables 75 and 76
h'F1 . . . . Table 77
f^oF1 . . . . Table 78
h'E . . . . Table 79
f^oE . . . . Table 80
Es . . . . Table 81
F2-M1500 . . . . Table 82
F2-M3000 . . . . Table 83
F1-M3000 . . . . Table 84
E-M1500 . . . . Table 85

IONOSPHERE DISTURBANCES . . . . Page 9

Ionospheric Storminess . . . . Table 86
Ionospheric character and principal storms observed
at Washington, D.C., January 1946.

Sudden Ionosphere Disturbances

Sudden ionosphere disturbances observed at Washington, D.C., during January 1946 . . . . Table 87

Radio Propagation Quality Figures, Compared with IRPL and ISIB Warnings, and IRPL A-Zone Forecasts.

North Atlantic and North Pacific quality figures, November, December 1945, provisional . . . . Tables 88 and 89

VARIATION AND PREDICTION OF E-LAYER CRITICAL FREQUENCIES . . . . . . Page 10

Variation of f^oE, at sunspot number = 0, with latitude, 1200 local time . . . . Fig. 99

Variation of f^oE, at sunspot number = 100, with latitude, 1200 local time . . . . Fig. 100

Variation of ratio of monthly-average to yearly-average f^oE, with latitude, 1200 local time, June . . . . Fig. 101

Variation of ratio of monthly-average to yearly-average f^oE, with latitude, 1200 local time, September . . . . Fig. 102

Variation of ratio of monthly-average to yearly-average f^oE, with latitude, 1200 local time, December . . . . Fig. 103

Latitude variation of f^oE with solar activity, 1200 local time, January through December . . . . Figs. 104 through 115

NOTE ON THE REFRACTIVE INDEX OF THE ATMOSPHERE . . . . Page 12

TERMINOLOGY AND SCALING PRACTICES

The symbols and terminology used in this report are those adopted by the International Radio Propagation Conference, and given in detail on pages 24 to 26 of the report IRPL-C61, "Report of International Radio Propagation Conference," and in the Section on "Terminology", in reports IRPL-F1, 2, 3, 4, 5.

Beginning with data reported for September, a new symbol, L, defined as follows, is adopted for use in detailed tabulations of hourly values of ionosphere characteristics observed at Washington:

> L or l = critical frequency, muf, or muf factor for F1 layer omitted because no definite and abrupt change in slope of the h'f curve occurs either for the first reflection or for any of the multiples. (See "Report of International Radio Propagation Conference," IRPL-C61, June 1944, VI 3c, p.37).

In the past, ionospheric conditions were summarized on a monthly basis by using average or mean values, for each hour of the day, for each month. However, following the recommendations of the International Radio Propagation Conference, held in Washington 17 April to 5 May 1944, beginning with data for 1 Jan. 1945, median values were used by IRPL wherever pos-

sible. Thus, median values are given for Washington, for all stations reporting directly to the IRPL, for the Canadian stations, and for all others sending in detailed tabulations to the IRPL, from which medians can be computed.

Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data existed.

The monthly median values used here are the values equalled or exceeded on half the days of the month at the given hour. The following conventions are used in determining the medians for hours when no measured values are given, because of equipment limitations and ionospheric irregularities. Symbols used are those given in the report referred to above, IRPL-C61.

a. For all ionospheric characteristics:
Values missing because of A, B, C or F (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:
Values missing because of E are counted as equal to or less than the lower limit of the recorder.
Values missing because of D are counted as equal to or greater than the upper limit of the recorder.
Values missing because of G are counted:
1. For f^oF2, as equal to or less than f^oF1.
2. For h'F2, as equal to or greater than the median.
Values missing for any other reason are omitted from the median count.

c. For muf factors (M-factors):
Values missing because of G are counted as equal to or less than the median.
Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):
Values of fEs missing because no Es reflections appeared, the equipment functioning normally otherwise, are counted as equal to or less than the lower limit of the recorder.
Values of fEs missing for any other reason, and values of hEs missing for any reason at all, are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D.C., are indicated by a parenthesis, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, no median value is computed, the data being considered insufficient.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, so long as there are at least five values, the median is not considered as doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

It is expected that this practice will be of assistance in evaluating the monthly median Washington data.

MONTHLY AVERAGE AND MEDIAN VALUES OF IONOSPHERIC DATA

The ionospheric data given here in graphical and tabular form were assembled by the Interservice Radio Propagation Laboratory for analysis and correlation, incidental to IRPL predictions of radio propagation conditions. The following are the sources of the data:

Australian Council for Scientific and Industrial Research,
Radio Research Board, Australia:
Brisbane, Australia
Canberra, Australia
Cape York, Australia

British National Physical Laboratory, and Inter-Services Ionosphere Bureau
Slough, England
Great Baddow, England
Burghead, Scotland
Delhi, India
Capetown, Union of S. Africa
Colombo, Ceylon
Oslo, Norway
Cairo, Egypt
Hobart, Tasmania

Canadian Radio Wave Propagation Committee:
Churchill, Canada
Ottawa, Canada
St. John's, Newfoundland
Prince Rupert, Canada
Clyde, Baffin I.

New Zealand Radio Research Committee:
Kermadec Is.
Christchurch (Canterbury University College Observatory)
Campbell I.
Pitcairn I.
Rarotonga I.

Interdepartment Ionosphere Bureau, U.S.S.R. Scientific Experimental Institute of Terrestrial Magnetism, Moscow, U.S.S.R.:

- Bukhta Tikhaya, U.S.S.R.
- Tomsk, U.S.S.R.
- Sverdlovsk, U.S.S.R.
- Moscow, U.S.S.R.
- Leningrad, U.S.S.R.
- Alma Ata, U.S.S.R.

Carnegie Institution of Washington (Department of Terrestrial Magnetism):

- Christmas I.
- Fairbanks, Alaska (University of Alaska, College, Alaska)
- Maui, Hawaii
- Trinidad, Brit. West Indies
- Huancayo, Peru
- Watheroo, W. Australia

United States Army Signal Corps:

- Leyte, Philippine Is.

National Bureau of Standards:

- Washington, D.C.

Stanford University:

- San Francisco, California

Louisiana State University:

- Baton Rouge, Louisiana

University of Puerto Rico:

- San Juan, P.R.

Harvard University:

- Boston, Massachusetts

All India Radio (Government of India), New Delhi, India

- Bombay, India
- Delhi, India
- Madras, India
- Peshawar, India

The tables of "provisional data" give values as reported to the IRPL by telephone or telegraph. Any errors in these values will be corrected in later issues of the F-series reports. In final data tabulations, any omission of values previously given in provisional tabulations is indicated by a dash.

The tables and graphs of "final data" are correct for the values reported to the IRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of these errors are due to:

a. Differences in scaling records where spread echoes are present.

b. Omission of values where f^oF2 is less than or equal to f^oF1, leading to erroneously high values of monthly average or median values.

c. Omission of values where critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series reports, IRPL-F1, 2, 3, 4, and 5. Discrepancies between predicted and observed values are often ascribable to these effects.

IONOSPHERIC DATA FOR EVERY DAY AND HOUR

These data, observed at Washington, D.C., follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given under "Terminology and Scaling Practices" above.

IONOSPHERE DISTURBANCES

Table 86 presents ionosphere character figures for Washington, D.C., during January 1946, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess", together with American magnetic K-figures which are usually covariant with them.

Table 88 gives provisional radio propagation quality figures for North Atlantic areas, for 01 to 12 and 13 to 24 GCT, for November and December 1945, compared with the IRPL daily radio disturbance warnings, which are primarily for the North Atlantic paths, and ISIB daily warnings, the IRPL semi-weekly radio propagation forecasts for the A-zone, and the half-day American geomagnetic K-figures.

The radio propagation quality figures for the North Atlantic were prepared from radio traffic and ionospheric data, reported to the IRPL, in the manner described in detail in report IRPL-R31, "North Atlantic Radio Propagation Disturbances October 1943 through October 1945", issued 1 Feb. 1946.

Table 89 gives provisional radio propagation quality figures for North Pacific areas, for 01 to 12 and 13 to 24 GCT, December 1945, compared with the IRPL daily radio disturbance warnings which are primarily for the North Atlantic areas, the IRPL semiweekly radio propagation forecasts for the A-zone, and the half-day American geomagnetic K-figures.

The radio propagation quality figures for the North Pacific were prepared from radio traffic and ionospheric data, reported to the IRPL, in the manner described in detail in report IRPL-R13, "Ionospheric and Radio Propagation Disturbances, October 1943 through February 1945," issued 24 May 1945.

VARIATION AND PREDICTION OF E-LAYER CRITICAL FREQUENCIES

Variations of E-layer critical frequencies with solar activity, season, time of day, and geographical location generally are far simpler and more regular than those of F2-layer critical frequencies, discussed in previous issues of this report. (Cf. IRPL-F15, 16, 17).

Their variation with solar activity, as in the case of F2-layer and F1-layer critical frequencies, is such that for any hour of day, at any location, there exists an approximately linear relationship between the twelve-month running-average f^oE and the corresponding twelve-month running-average sunspot number. The variation of E-layer critical frequencies with solar activity, however, is generally less than that for those of other regular ionosphere layers for the same location, season and local time of day. (Cf. IRPL-R26, "The Ionosphere as a Measure of Solar Activity").

Figs. 99 and 100 present the latitude variation of yearly-average noon f^oE, as derived from such solar-activity trend curves as are described above, for those ionosphere stations in operation for a sufficient time that the trends seem reliable. Effective extension of the available data is attained by using them both at their proper latitudes and at the corresponding reversed latitudes, where the location of the latitude-variation curve may then be estimated.

It may be noted by inspection of Figs. 99 and 100 that no pronounced longitude effect exists for f^oE, since departures of data points (not reverse-latitude data) from the estimated line are more plausibly explicable from considerations of reliability of the data than from location, data from relatively new ionosphere stations, and from stations where noon f^oE present scaling difficulties because of high absorption, being relatively unreliable.

There seems, however, to be a notable difference between data for the northern and southern hemispheres, - a phenomenon exhibited also by F1-layer and F2-layer critical frequencies, - shown by the consistent difference between sets of points plotted at true and at reversed latitudes. It is for this reason that the estimated curves for southern latitudes, for which no actual data exist below 35.3°S, are obtained by adjustment of the reverse-latitude data for Washington, D.C., (39.0°N) and Fairbanks, Alaska (64.9°N) with respect to the data from Watheroo, W. Australia (30.3°S), all three being data from stations

long in operation and therefore relatively reliable, in the following manner: The curve at 39.0°S is drawn so that the ratio between values at 39.0°S and 30.3°S is identical with the ratio between values for corresponding northern-hemisphere latitudes. This procedure is justified by the relatively small change in slopes of the curve at corresponding latitudes in either hemisphere. (The estimated southern-latitude points for the curve are indicated by triangles on the figures). The curve at 64.9°S is estimated, then, to lie so that the ratio between the estimated value and the reverse-latitude value for 64.9°N is identical with the ratio between the estimated value for 39.0°S and the reverse-latitude value for 39.0°N.

Figs. 101, 102, and 103 present the latitude variation of the ratio of monthly-average to yearly-average f°E for the months of June, September, and December, respectively, these being typical of conditions for summer solstice, equinox, and winter solstice. Seasonal effects for E-layer critical frequencies, as presented by these ratios, seem relatively constant with respect to solar activity. Variations between northern- and southern-hemisphere data for these ratios are small in comparison to the error inherent in the ratios, so that no correction was made for this, such as was made for the yearly-average values of f°E.

It is apparent from inspection of the curves of yearly-average f°E, Figs. 99 and 100, both of which show maxima in equatorial regions, with gradual diminution toward the poles, and of the curves of Figs. 101, 102, and 103, which show that the ratio of monthly-average to yearly-average f°E is nearly unity for all latitudes during equinox season, and gradually diminishes from north pole to south pole during summer solstice, reversing this behavior during winter solstice, that E-layer critical frequencies are very closely related to solar position.

It has often been shown (Cf. "Recent Studies of the Ionosphere," S. S. Kirby and E. B. Judson, Proc. I.R.E. 23, 733, 1935; "Theory of the Ionosphere," E. O. Hulburt, Terr. Mag. 40, 193, 1935; "Regularities and Irregularities in the Ionosphere, I," E. V. Appleton, Proc. Phys. Soc. London, 162, 451, 1937; "Trends of Characteristics of the Ionosphere for Half a Sunspot Cycle," N. Smith, T. R. Gilliland, S. S. Kirby, J. Res. National Bureau of Standards, 21, 835, 1938 (RP1159); and "The E Region of the Ionosphere," E. O. Hulburt, Phys. Rev. 55, 639, 1939) that the variation of E-layer critical frequencies closely approximates proportionality of f°E to $\cos \psi^{\frac{1}{4}}$, where ψ represents the solar zenith angle, in accordance with the theoretical analysis of S. Chapman ("The Absorption and Dissociative or Ionizing Effect of Monochromatic Radiation in an Atmosphere on a Rotating Earth," Proc. Roy. Soc. London 43, pp.26 and 483, 1931). This is shown by the nomograms, Figs. 104 through 115, which present the latitude variation of noon f°E, for each month, throughout the solar cycle, in that the central latitude-variation curves of each nomogram approximate a straight line diagonal between the parallel scales on either side, the reversal taking place at a latitude nearly equal to the average solar declination for the month concerned.

It is notable, however, that strict adherence to this behavior seems least during summer months, when relatively pronounced discrepancy exists between the slopes of the latitude-variation curves for northern and southern hemispheres. It is also notable that the point of inversion of these curves is generally closer to the equator than the solar declination.

The diurnal variation of f^oE at any location, for any season, seems approximately independent of solar activity.

This enables considerable practical use to be made of the accompanying nomograms, Figs. 104 through 115, in the prediction of E-layer maximum usable frequencies. If an estimate of solar activity be made in terms of smoothed sunspot number for the time for which prediction is desired, the corresponding noon f^oE for any location may be obtained by use of one of these nomograms for the appropriate month. The value at any time of day for this location may be obtained by multiplying this value by the ratio of E-layer 2000-muf for the corresponding time and location, to the noon value for the same place, as determined from the predicted chart of E-layer 2000-muf for the appropriate month as given in reports of the IRPL-D series, "Basic Radio Propagation Predictions Three Months in Advance," Fig. 11. Multiplication of the predicted f^oE by 4.8, an approximately constant value of E-layer M-2000, gives the E-layer 2000-muf, from which the muf for other distances may be obtained by the methods presented in reports of the IRPL-D series.

NOTE ON THE REFRACTIVE INDEX OF THE ATMOSPHERE

The refractive index of the atmosphere is a basic quantity in radio propagation studies and applications at VHF and microwave frequencies. Many reports have appeared, however, in which the expression for the refractive index is erroneously given. Even though the error thus introduced is but of the order of a percent or so, it is considered desirable to point out the discrepancy and to indicate the preferable formula.

The erroneous expression for the refractive index "n" of the atmosphere is:

$$(n-1) \times 10^6 = \frac{79}{T} \left(p - e + \frac{4800e}{T}\right),$$

where: n = refractive index
T = temperature in ^oK
p = total pressure of air in millibars
e = partial pressure of water vapor in millibars.

While only a 1% change is introduced by its use, the approximately correct formula is:

$$(n-1)\ x10^6 = \frac{79}{T}\left(p + \frac{4800e}{T}\right),$$

and is partially derived as follows.

The refractive index n of a substance is defined as $n = \sqrt{\mu k}$ where k is the dielectric constant, and μ is the permeability. In the atmosphere μ and k both differ slightly from the value unity so that,

$$\mu = 1+\Delta\mu$$
$$\text{and } k = 1+\Delta k,$$

where $\Delta\mu$ and Δk are small.

Therefore we have, upon expanding the radical into a series and neglecting higher order products and powers of $\Delta\mu$ and Δk

$$n = \sqrt{(1+\Delta\mu)(1+\Delta k)} \cong 1 + \frac{\Delta\mu}{2} + \frac{\Delta k}{2}$$

and so

$$(n-1) = \frac{\Delta\mu}{2} + \frac{\Delta k}{2}$$

For the dielectric constant k we have a contribution due to electric dipole moments of the molecules of the component gases induced by the radio wave, in addition to a permanent electric dipole moment for water vapor.

The "dry" gases of the atmosphere have a dielectric constant given by:

$$(k-1)_d \times 10^6 = \frac{158\ p_d}{T}$$

and for water vapor,

$$(k-1)_\omega \times 10^6 = \frac{158e}{T}\left(0.89 + \frac{4750}{T}\right)$$

where: p_d = partial pressure of dry air (mb)
e = partial pressure of water vapor (mb)
T = temperature (^oK).

The constants in the above expressions are all obtained by experiment. The additional inverse T term in the bracket for water vapor is the contribution of the permanent electric dipole moment.

These expressions for the dielectric constants may be combined by weighting them, in proportion to the partial pressures of dry air and water vapor, to give the dielectric constant of the moist atmosphere as a whole.

Thus,

$$(k-1)_{total} \times 10^6 = \frac{158p}{T}\left[\frac{Pd}{p} + \frac{e}{p}\left(0.89 + \frac{4750}{T}\right)\right].$$

Now, 0.89e may be expressed approximately as e, and 4750 as 4800, without introducing an error of more than 0.1% in the final expression. Thus, we obtain

$$(k-1) \times 10^6 \doteq \frac{158}{T}\left(p + \frac{4800e}{T}\right).$$

At T = 20°C, p = 1013 mbs, and e = 10 mbs, the value of $(k-1) \times 10^6 = 634$.

In the atmosphere, the only substance contributing appreciably to the permeability is oxygen which has a permanent magnetic dipole moment. However, considering the partial pressure of oxygen at T = 20°C and p = 1013 mb,

$$(\mu - 1) \times 10^6 = 0.37.$$

We thus see that the contribution of the permeability to the refractive index may be neglected in comparison with the contribution of the dielectric constant. Hence we have

$$(n-1) \times 10^6 = \frac{\Delta k}{2} \times 10^6 = \frac{79}{T}\left(p + \frac{4800e}{T}\right),$$

as the best approximate expression for the atmospheric refractive index.

Table 1 (Provisional Data)

Churchill, Canada (58.8°N, 94.2°W) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00								
01								
02								
03								
04								
05		3.7						3.0
06								
07		3.2						3.0
08		3.3						2.9
09		4.5						3.2
10		5.4						3.3
11		5.8						3.2
12		6.2						3.1
13		6.6						3.1
14		6.9						3.1
15		6.8						3.1
16		6.6						3.1
17		5.9						3.0
18		4.7						3.1
19		3.8						2.9
20		3.4						3.0
21		3.4						2.9
22		3.4						3.0
23								

Time: 90°W.
Length of time sweep: 2.0 Mc to 16.0 Mc in one minute.
Median values.

Table 2 (Provisional Data)

Prince Rupert, Canada (54.3°N, 130.3°W) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		1.8						3.3
01		1.8						3.3
02		1.7						3.3
03		1.6						3.3
04		1.7						3.2
05		1.7						3.1
06		1.8						3.1
07		1.9						3.2
08		2.3						3.2
09		4.1						3.6
10		5.1						3.7
11		6.1						3.7
12		6.6						3.7
13		6.8						3.7
14		7.1						3.7
15		6.8						3.8
16		6.2						3.7
17		5.7						3.7
18		4.5						3.8
19		3.1						3.7
20		2.2						3.6
21		1.9						3.4
22		1.7						3.4
23		1.7						3.3

Time: 120.0°W.
Length of time sweep: Manual operation.
Median values.

Table 3 (Provisional Data)

St. John's Newfoundland (47.7°N, 52.7°W) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		2.3						3.0
01		2.3						3.0
02		2.1						3.0
03		2.2						3.0
04		2.1						3.3
05		2.1						3.0
06		2.1						3.2
07		2.0						3.3
08		4.1						3.4
09		5.8						3.6
10		6.7						3.5
11		7.4						3.4
12		7.3						3.5
13		7.1						3.4
14		7.3						3.4
15		7.0						3.5
16		6.6						3.4
17		6.0						3.4
18		5.4						3.3
19		4.9						3.3
20		4.2						3.2
21		3.5						3.1
22		3.3						3.0
23		2.7						3.0

Time: 52.5°W.
Length of time sweep: Manual operation.
Median values.

Table 4 (Provisional Data)

Ottawa, Canada (45.5°N, 75.8°W) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		2.6						3.2
01		2.4						3.1
02		2.3						3.1
03		2.2						3.0
04		2.1						3.1
05		2.1						3.0
06		2.1						3.0
07		2.9						3.1
08		4.3						3.3
09		5.7						3.3
10		6.7						3.2
11		7.5						3.1
12		7.7						3.2
13		7.5						3.1
14		7.6						3.2
15		7.4						3.1
16		6.9						3.2
17		6.6						3.2
18		5.7						3.1
19		5.1						3.1
20		3.8						3.1
21		3.1						3.1
22		2.8						3.0
23		3.0						3.1

Time: 75.0°W.
Length of time sweep: 1.93 Mc to 13.5 Mc. Manual operation.
Median values.

Table 5 (Provisional Data)

Boston, Massachusetts (42.4°N, 71.2°W) January 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		2.4						2.8
01		2.3						2.8
02		2.3						2.8
03		2.5						2.8
04		2.2						2.9
05		2.0						2.9
06		1.9						2.9
07		3.3						3.0
08		5.5						3.4
09		6.2						3.3
10		7.4						3.2
11		7.7						3.2
12		7.5						3.3
13		7.4						3.2
14		7.3						3.2
15		7.3						3.2
16		6.7						3.2
17		6.2						3.1
18		5.7						3.0
19		4.5						3.0
20		3.6						2.9
21		3.0						2.8
22		2.9						2.8
23		2.5						2.8

Time: 75.0°W.
Length of time sweep: 0.85 to 13.75 Mc in one minute.
Median values.

Table 6 (Provisional Data)

San Francisco, California (37.4°N, 122.2°W) January 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.0						2.9
01		3.0						2.9
02		3.1						3.0
03		3.0						3.0
04		2.9						3.0
05		2.9						2.9
06		2.9						2.9
07		3.4						3.0
08		5.6						3.4
09		6.4						3.3
10		7.0						3.2
11		8.0						3.2
12		8.5						3.2
13		7.8						3.2
14		7.2						3.2
15		7.1						3.2
16		6.6						3.3
17		5.8						3.3
18		4.3						3.2
19		3.4						3.3
20		2.4						3.2
21		2.4						3.0
22		2.5						2.9
23		2.9						2.8

Time: 120.0°W.
Length of time sweep: 0.8 Mc to 12.0 Mc in six minutes. Record centered on hour.
Median values.

Table 7 (Provisional Data)

Baton Rouge, Louisiana (30.5°N, 91.2°W) January 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.4						2.8
01		3.5						2.9
02		3.5						2.9
03		3.5						2.9
04		3.5						2.9
05		3.2						2.9
06		3.0						2.9
07		4.7						3.1
08		6.2						3.1
09		6.5						3.1
10		6.9						3.0
11		7.5						2.9
12		8.1						2.9
13		8.0						2.9
14		7.5						3.0
15		7.4						3.0
16		7.0						3.0
17		6.3						3.2
18		4.7						3.0
19		3.5						2.8
20		3.2						2.9
21		3.1						2.8
22		3.1						2.8
23		3.2						2.8

Time: 90.0°W.
Length of time sweep: 1.9 Mc to 9.8 Mc in three minutes, thirty seconds.
Median values.

Table 8 (Provisional Data)

Maui, Hawaii (20.8°N, 156.5°W) January 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	3.0						2.9
01	290	3.0						3.0
02	250	2.8						3.0
03	250	2.8						3.1
04	240	2.1						3.3
05		1.8						3.3
06	250	2.1						3.1
07	250	3.6						3.0
08	250	6.8						3.2
09	270	8.2	250	4.4		3.0		3.2
10	270	9.2	230	4.6		3.1		3.2
11	290	9.4	230	4.8		3.2		3.0
12	300	10.2	210	4.7		3.5		3.0
13	300	11.5	200	4.8		3.4		3.0
14	280	12.1	240	4.8		3.4		3.1
15	260	11.2	240	3.7		3.2		3.1
16	250	8.8	230			3.0	4.2	3.3
17	240	6.9				2.5	3.8	3.2
18	230	6.4					3.4	3.5
19	240	4.4					3.0	3.2
20	250	4.0					3.2	3.0
21	250	4.6						3.2
22	240	4.4						3.2
23	250	3.2						3.0

Time: 150.0°W.
Length of time sweep: 2.2 Mc to 16.0 in one minute.
Median values.

Table 9 (Provisional Data)

Trinidad, Brit. West Indies (10.6°N, 61.2°W) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	280	3.9					2.7	2.9
01	270	3.9					2.4	3.0
02	250	3.4					2.5	3.3
03	230	3.2					2.6	3.1
04	260	3.2					2.4	2.8
05	260	3.2					2.4	3.0
06	250	3.5					2.2	3.1
07	240	5.7				2.0	2.6	3.5
08	260	7.6	220	3.9		2.5	3.4	3.4
09	260	8.7	220	4.5		3.0	3.6	3.4
10	260	8.6	220	4.8		3.3	4.0	3.4
11	270	8.0	210	4.9		3.5	4.1	3.4
12	280	7.3	200	5.0		3.5	4.4	3.2
13	300	7.7	200	5.0		3.6	4.4	3.1
14	300	8.2	220	4.9		3.6	4.8	3.1
15	300	8.0	240	4.7		3.3	4.8	3.1
16	280	7.6	240	4.3		3.0	4.3	3.1
17	260	7.4		3.7		2.4	4.0	3.2
18	240	7.6					3.6	3.3
19	230	6.6					3.2	3.3
20	220	4.8					2.8	3.2
21	260	4.3					2.6	3.1
22	270	4.2					2.6	3.0
23	260	3.8					3.4	3.1

Time: 60.0°W.
Length of time sweep: Manual operation.
Median values.

Table 10 (Provisional Data)

Huancayo, Peru (12.0°S, 75.3°W) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00								
01		5.0						3.3
02		4.4						3.3
03		3.4						3.3
04		2.4						3.2
05		2.2						3.1
06		5.3						3.1
07		7.7						3.1
08		8.7						2.8
09		8.8						2.6
10		9.0						2.4
11		8.5						2.4
12		8.8						2.4
13		9.2						2.5
14		9.6						2.5
15		10.1						2.6
16		10.2						2.6
17		10.2						2.7
18		10.2						2.7
19		9.6						2.6
20		8.5						2.6
21		7.6						2.5
22		8.0						2.5
23		7.8						2.9

Time: 75.0°W.
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
Median values.

Burghead, Scotland (57.7°N, 3.5°W) December 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		2.8						
01		3.2						
02		3.0						
03		3.1						
04		3.5						
05		3.1						
06		2.7						
07		2.4						
08		3.2						
09		5.1						
10		6.2						
11		6.6						
12		7.1						
13		7.2						
14		7.2						
15		6.5						
16		5.9						
17		5.3						
18		3.8						
19		2.8						
20		2.7						
21		2.7						
22		2.5						
23		2.8						

Time: 0.0°.
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.
Average values.

Table 12 (Provisional Data)

Adak, Alaska (51.9°N, 176.6°W) December 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		2.8						3.0
01								
02								
03								
04								
05								
06								
07		3.3						3.0
08		5.4						3.4
09		7.0						3.4
10		8.0						3.5
11		7.7						3.5
12		8.3						3.5
13		8.0						3.6
14		7.9						3.5
15		6.7						3.5
16		4.9						3.5
17		3.8						3.3
18		2.7						3.0
19		2.6						2.8
20		2.6						2.6
21		2.6						2.7
22		3.0						2.8
23		3.2						3.0

Time: 180.0°W.
Median values.

Table 13 (Provisional Data)

Chungking, China (29.4°N, 106.8°E) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05								
06		[illegible]						2.9
07		5.8						3.3
08		7.8						3.3
09		[illegible]						3.4
10		[illegible]						3.4
11		[illegible]						3.5
12		[illegible]						3.2
13		[illegible]						3.2
14		11.0						3.3
15		[illegible]						3.5
16		[illegible]						3.7
17		[illegible]						3.8
18		[illegible]						3.4
19		[illegible]						3.3
20		[illegible]						3.2
21		4.6						3.5
22		4.4						3.5
23		4.3						3.5

Time: 105.0°E.
Length of time sweep: 3.3 Mc to 12.3 Mc in fifteen minutes.
Median values.

Table 14 (Provisional Data)

Christmas I. (1.9°N, 157.3°W) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		6.2						[illegible]
01		5.2						[illegible]
02		[illegible]						[illegible]
03		[illegible]						[illegible]
04		[illegible]						[illegible]
05		[illegible]						[illegible]
06		[illegible]						[illegible]
07		[illegible]						[illegible]
08		[illegible]						[illegible]
09		[illegible]						[illegible]
10		[illegible]						2.5
11		[illegible]						[illegible]
12		[illegible]						2.5
13		9.1						2.5
14		9.6						2.5
15		10.2						2.6
16		10.6						2.8
17		10.7						2.9
18		10.5						3.0
19		10.0						3.0
20		9.2						2.9
21		8.4						2.7
22		8.0						2.8
23		8.2						3.2

Time: 150.0°W.
Length of time sweep: 1.5 Mc to 13.0 Mc in one minute, thirty seconds.
Median values.

Table 15 (Provisional Data)

Rarotonga Island (21.4°S, 159.6°W) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		9.4						
01		8.6						
02		7.0						
03		6.8						
04		6.4						
05		6.2						
06		6.7						
07		7.9						
08		9.0						
09		9.5						
10		10.7						
11		11.1						
12		12.0						
13		12.0						
14		12.3						
15		12.2						
16		11.6						
17		9.5						
18		9.5						
19		8.9						
20		9.1						
21		9.2						
22		9.2						
23		[illegible]						

Time: 157.[illegible]°W.
Length of time sweep: [illegible].0 Mc to 16.0 Mc. Manual operation.
Median values.

Table 16 (Provisional Data)

Kermadec Is. (29.2°S, 177.9°W) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05								
06		6.7						3.0
07		7.4						2.9
08		8.0						2.9
09		8.6						2.8
10		9.0						2.8
11		9.3						2.8
12		9.5						2.8
13		9.2						2.8
14		8.8						2.8
15		8.7						2.8
16		8.6						2.8
17		8.8						2.9
18		8.6						2.9
19		8.5						2.9
20		8.0						2.7
21		8.3						2.8
22								
23								

Time: 180.0°E.
Length of time sweep: 1.8 Mc to 12.0 Mc. Manual operation.
Median values.

Table 17 (Provisional Data)

Watheroo, W. Australia (30.3°S, 115.9°E) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		6.1						2.9
01		5.6						3.0
02		4.9						3.0
03		4.2						2.9
04		3.9						2.9
05		4.5						3.0
06		5.4						3.1
07		5.9						3.0
08		6.3						2.9
09		7.0						2.9
10		7.5						2.8
11		7.9						2.9
12		8.1						2.8
13		8.2						2.9
14		8.2						2.9
15		8.0						2.9
16		7.7						2.9
17		7.6						3.0
18		7.5						3.0
19		7.2						3.0
20		6.8						2.9
21		6.4						2.9
22		6.2						2.8
23		6.1						2.8

Time: Local.
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 18 (Provisional Data)

Capetown (Simonstown), Union of S. Africa (33.9°S, 18.7°E) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.3						2.8
01		4.3						2.7
02		4.3						2.8
03		3.0						2.8
04		3.7						2.7
05		4.9						2.9
06		5.7						2.9
07		6.5						2.8
08		7.4						2.7
09		7.8						2.7
10		8.4						2.6
11		8.3						2.6
12		8.7						2.7
13		8.5						2.7
14		8.2						2.7
15		8.3						2.7
16		8.1						2.8
17		7.7						2.8
18		7.4						2.9
19		6.9						3.0
20		5.9						2.9
21		5.2						2.9
22		4.7						2.8
23		4.5						2.8

Time: 15.0°E.
Length of time sweep: 2.0 Mc to 16.0 Mc in one minute.
Average values.

Table 19 (Provisional Data)

Hobart, Tasmania (42.9°S, 147.3°E) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.6						2.9
01		5.3						3.0
02		4.7						3.0
03		4.1						3.0
04		3.9						3.0
05		4.5						3.2
06		5.0						3.2
07		5.3						3.1
08		5.8						3.0
09		6.0						3.0
10		6.4						3.0
11		6.5						3.0
12		6.5						3.0
13		6.9						2.9
14		6.4						2.0
15		6.4						3.0
16		6.5						3.0
17		6.4						3.0
18		6.7						3.1
19		6.6						3.0
20		7.0						3.0
21		6.7						2.9
22		6.4						2.9
23		6.2						2.9

Time: 150.0°E.
Median values.

Table 20 (Provisional Data)

Christchurch, N.Z. (43.5°S, 172.6°E) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	6.5						
01	260	6.1						
02	250	5.6						
03	250	5.2						
04	260	4.7						
05	250	4.8				1.6		
06	280	5.5	250	3.9		2.5		
07	320	6.0	240	4.3		2.9		
08	315	6.8	230	4.6		3.1		
09	300	7.1	220	4.7		3.3		
10	320	7.4	220	4.8		3.4		
11	320	7.3	210	4.9		3.5		
12	330	7.3	230	4.9		3.6		
13	330	7.0	200	4.9		3.6		
14	350	7.0	220	4.9		3.5		
15	335	7.0	220	4.8		3.4		
16	320	7.1	230	4.5		3.2		
17	310	7.0	240	4.2		2.8		
18	280	7.5	250	3.8		2.4		
19	265	7.8		2.9		1.8		
20	250	7.8						
21	255	7.6						
22	250	7.3						
23	260	6.9						

Time: 172.5°E.
Length of time sweep: 1.0 Mc to 13.0 Mc. Automatic.
Median values.

Table 21 (Provisional Data)

Campbell I. (52.5°S, 169.0°E) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05		4.9						3.0
06								
07		5.8						2.7
08		6.1						2.8
09		6.2						2.9
10		6.2						2.8
11		6.5						2.9
12		6.3						2.8
13		6.7						2.9
14		6.5						2.8
15		6.3						2.8
16		6.4						2.9
17		6.7						2.8
18		7.0						2.9
19		7.3						2.8
20								
21		7.2						2.7
22								
23		6.7						2.7

Time: 165.0°E.
Length of time sweep: 1.0 Mc to 15.0 Mc. Manual operation.
Median values.

Table 22 (Provisional Data)

Kermadec Is. (29.2°S, Long. 177.9°W) November 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05								
06	260	7.8	250	3.7	125	2.2		3.2
07	275	8.0	240	4.2	120	2.8		3.1
08	300	8.6	230	4.8	120	3.1		3.0
09	300	9.3	210	4.9	115	3.4		3.0
10	310	9.8	205	5.0	115	3.5		2.9
11	315	10.2	220	5.0	115	3.6		2.9
12	320	10.2	230	5.1	115	3.6		2.9
13	320	10.1	230	5.0	115	3.4		2.8
14	320	9.7	240	5.0	115	3.4		2.9
15	320	9.4	245	4.8	120	3.2		2.9
16	310	9.2	250	4.5	120	3.0		2.8
17	295	9.3	250	3.8	120	2.5		2.9
18	270	9.6						2.9
19	265	9.3						2.8
20	270	9.0						2.8
21	285	8.7						2.8
22								
23								

Time: 180.0°E.
Length of time sweep: 1.8 Mc to 12.0 Mc. Manual operation.
Median values.

Table 23

Washington, D. C. (39.0°N, 77.5°W) January 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	2.5	2.5				2.2	(3.0)
01	270	2.7					2.3	(3.0)
02	270	2.6						(3.1)
03	260	2.8						(3.1)
04	240	2.6						(3.1)
05	240	2.8					2.0	(3.2)
06	250	2.4					2.4	(3.2)
07	250	2.8					2.5	(3.2)
08	225	5.3			120	1.8	3.8	3.5
09	230	6.2	220		110	(2.4)	3.8	3.5
10	245	7.0	220	(3.8)	110	2.8	3.8	3.3
11	250	7.9	210	(4.2)	110	(3.0)	3.8	3.3
12	250	7.7	220	(4.3)	110	(3.1)	3.1	3.3
13	250	7.6	210	(4.2)	110	(3.0)		3.4
14	250	7.3	215	(4.0)	110	(2.9)	2.7	3.3
15	250	7.2	220	3.5	110	2.6	3.7	3.3
16	230	6.9	220		120	(2.2)	2.7	3.3
17	230	6.6			120	(1.6)	2.6	3.3
18	220	5.6						3.3
19	230	4.8						3.3
20	230	3.6					1.8	3.2
21	250	2.9						3.1
22	270	2.7						3.0
23	270	2.7						3.0

Time: 75.0°W.
Length of time sweep: 0.75 Mc to 11.5 Mc in 3.4 minutes supplemented by 0.8 Mc to 14.0 Mc in two minutes.
Median values.

Table 24

Fairbanks, Alaska (64.9°N, 147.8°W) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	1.6					3.2	3.1
01	308	1.6					4.5	3.0
02	335	1.6					4.8	2.8
03	(358)	1.4					4.6	2.8
04	345	1.8					3.2	2.7
05	332	2.0					3.3	2.8
06	322	2.2					3.2	2.9
07	300	2.1					3.2	2.9
08	282	2.4					3.1	3.0
09	245	3.8				1.3	3.0	3.1
10	230	5.0				1.6	3.0	3.2
11	230	5.8				1.7	3.0	3.2
12	235	6.4				1.8	3.1	3.2
13	230	6.8				1.5	3.0	3.2
14	228	5.9				1.4	3.0	3.2
15	230	5.4				(1.2)	2.9	3.2
16	225	4.3					3.0	3.2
17	240	3.1					3.0	3.2
18	240	2.4					3.0	3.2
19	275	1.8					3.1	3.1
20	300	1.5					3.2	3.0
21	300	1.8					3.2	3.1
22	295	1.8					3.4	3.2
23	290	1.9					3.6	3.0

Time: 150.0°W.
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 25

Oslo, Norway (59.9°N, 11.0°E) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		(2.6)						2.6
01		3.3						
02		3.5						
03		3.6						3.4
04		3.2						2.4
05		2.4						
06		1.8						2.5
07		1.5						
08		2.6						
09		3.8					1.6	3.5
10		5.3					1.9	4.0
11		5.9						3.9
12		6.3					2.3	4.0
13		6.4						4.0
14		6.1						2.5
15		5.6						
16		4.4						2.7
17		4.1						
18		3.4						
19		(2.4)						
20								
21								3.4
22								4.2
23		(3.3)						2.0

Time: 15.0°E.
Length of time sweep: 16.0 Mc to 1.63 Mc in ten minutes.
Median values.

Table 26

Prince Rupert, Canada (54.3°N, 130.3°W) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	1.8						3.4
01	240	1.9						3.4
02	(240)	1.9						3.3
03	(255)	1.8						3.3
04	280	1.8						3.2
05	(260)	2.0						3.2
06	(260)	2.2						3.2
07	250	2.2						3.3
08	230	2.6						3.2
09	200	4.3	(175)					3.7
10	190	6.1	180		(90)	2.0		3.7
11	190	7.1	180		100	2.3		3.7
12	190	7.8	180	2.9	(95)	2.4		3.8
13	190	7.9	180		(100)	2.4		3.7
14	190	8.0	180		(100)	2.3		3.6
15	190	8.2	180					3.8
16	190	7.0	170					3.8
17	180	5.5	170					3.7
18	180	4.6	(170)					3.8
19	190	3.3						3.7
20	200	2.4						3.7
21	(220)	1.9						3.5
22	(215)	1.7						3.4
23	(250)	1.9						3.6

Time: 120.0°W.
Length of time sweep: Manual operation.
Median values.

Table 27

Great Baddow, England (51.7°N, 0.5°E) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		2.6						2.8
01		2.7					0.8	2.7
02		2.7					0.8	2.8
03		2.4					0.8	2.9
04		2.4					0.9	3.0
05		2.4					1.6	3.1
06		2.2					1.1	3.2
07		2.4						3.1
08		4.4				1.6	1.8	3.4
09		5.8				2.0	2.1	3.5
10		6.6				2.2	2.5	3.6
11		7.0				2.4	2.7	3.6
12		7.1				2.4	2.6	3.5
13		7.0				2.4	2.4	3.4
14		7.3				2.2	2.4	3.4
15		6.6				1.8	1.8	3.5
16		5.7					1.6	3.4
17		4.7					1.8	3.2
18		3.9					1.8	3.3
19		3.0					1.5	3.2
20		2.6						3.2
21		2.4						2.9
22		2.4						2.8
23		2.5						2.8

Time: 0.0°.
Length of time sweep: Manual operation.
Median values.

Table 28

(Corrections and additions to previously published provisional data)

St. John's, Newfoundland (47.7°N, 52.7°W) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	2.5						
01	280							
02	280							
03	275	2.4					1.8	
04	270						2.3	
05	265						2.3	
06	235	2.2					2.1	
07	280						2.3	
08	250		215	2.6	125	1.6	2.2	
09	240		220	3.1	110	2.2		
10	240		210	3.3	110	2.4		
11	230		200	3.3	100	2.5		
12	250		210	3.9	100	2.6		
13	250		210	3.5	100	2.5		
14	240		200	3.4	100	2.4		
15	240		200	3.1	110	2.2		
16	230	7.1	200	2.9	100	2.2		
17	230		200	2.6				
18	235		210	2.5				
19	230	4.4					1.6	
20	240							3.4
21	250							
22	280							3.2
23	295							

Time: 52.5°W.
Length of time sweep: Manual operation.
Median values.

Table 29

(Corrections and additions to previously published provisional data)

Ottawa, Canada (45.5°N, 75.8°W) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03		2.5						
04								
05							2.5	
06							2.8	
07							3.0	
08	230						2.6	
09	220					2.4	2.8	
10	220				130	2.5	4.0	
11	220		210	3.8	130	2.7	4.8	
12	220				120	2.8	4.9	
13	220				130	2.8	4.2	
14	220				130	2.6	3.0	
15	230					2.4		
16	220							
17	220							
18	235							
19	240							
20	250							
21	260	3.2						
22	300							
23	295							

Time: 75.0°W.
Length of time sweep: 1.93 Mc to 13.5 Mc. Manual operation.
Median values.

Table 30

(Corrections and additions to previously published provisional data)

Boston, Massachusetts (42.4°N, 71.2°W) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270							2.9
01	280							
02	280							2.8
03	262							
04	255	2.6						
05	248							
06	240							
07	245							
08	225				130	2.0		
09	225	6.7			120	2.5		
10	225				125	2.8		
11	240				125	2.9		
12	235				130	2.9		
13	235				132	2.8		
14	240				125	2.6		
15	235				130	2.2		3.2
16	222					1.8		
17	230							
18	238							
19	240						1.6	
20	240						1.8	
21	260							
22	280							
23	280	2.4						

Time: 75.0°W.
Length of time sweep: 0.85 Mc to 13.75 Mc in one minute.
Median values.

Table 31

(Corrections and additions to previously published provisional data)

San Francisco, California (37.4°N, 122.2°W) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260						3.5	
01	260						3.5	
02	260						3.5	
03	250						3.4	
04	260						3.4	
05	260						3.3	
06	260	3.2					3.4	
07	245						2.6	
08	230				110	2.2	3.3	
09	230	7.5	220	3.5	120	2.6	3.5	
10	240	7.6	220	3.9	110	2.9	3.7	
11	240		220	4.3	110	3.0	3.6	
12	250		230	4.3	110	3.1	3.6	
13	240	8.6	230	4.3	110	3.1	3.8	
14	240		230	4.0	110	2.9	3.7	
15	240		225	3.6	110	2.6	3.5	
16	230				110	2.2	3.5	
17	220						3.4	
18	220						2.9	
19	230						3.0	
20	225						3.3	
21	240						3.5	
22	260						3.5	
23	265						3.5	

Time: 120.0°W.
Length of time sweep: 0.8 to 12.0 Mc in six minutes. Record centered on hour.
Median values.

Table 32

(Corrections and additions to previously published provisional data)

Baton Rouge, Louisiana (30.5°N, 91.2°W) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	285							
01	275							
02	260							
03	260							
04	250	3.4						
05	250							
06	250							
07	250							
08	250	7.0	240	3.6	130	2.2		3.2
09	250		240	4.2	120	2.7		
10	250		240	4.4	120	3.0		
11	260		230	4.5	120	3.1		
12	260		235	4.6	120	3.2		
13	260		230	4.6	120	3.2		
14	260		240	4.5	120	3.0		
15	250	8.2	240	4.2	120	2.7	3.6	
16	250		245	3.6	130	2.2	3.0	
17	230	6.4					3.5	
18	230						2.9	
19	240							
20	250	3.4					3.0	
21	280							
22	275							
23	280						3.0	

Time: 90.0°W.
Length of time sweep: 1.9 Mc to 9.8 Mc in three minutes, thirty seconds.
Median values.

Table 33

(Corrections and additions to previously published provisional data)

Maui, Hawaii (20.8°N, 156.5°W) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02		3.6						3.2
03	230							
04		2.3						(3.0)
05								(3.0)
06								
07								
08					100			
09			230		100			
10	278	10.8			105			
11	275				100			
12			215		105			
13					100			
14	275		235		100			
15			225	4.4	100		4.0	
16					100			
17							3.6	
18		5.3						
19	208							
20								
21							3.7	
22								
23							2.8	

Time: 150.0°W.
Length of time sweep: 2.2 Mc to 16.0 Mc in one minute.
Median values.

Table 34

San Juan, Puerto Rico (18.4°N, 66.1°W) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.0						2.9
01		4.2						3.0
02		4.0						3.0
03		3.8						3.1
04		3.3						2.9
05		3.3						2.7
06		3.3						2.9
07		5.1						3.2
08		7.0						3.1
09		8.2		3.6		2.8		3.1
10		8.7		4.2		3.0		3.2
11		8.8		4.4		3.2		3.1
12		8.0		4.4		3.2		3.1
13		8.1		4.4		3.2		3.1
14		8.2		4.2		3.1		3.0
15		8.0		4.0		3.0		3.1
16		7.6		3.8			3.6	3.1
17		7.0					3.8	3.2
18		6.2					3.8	3.2
19		4.3						3.1
20		3.7						2.9
21		3.8						2.9
22		3.8						2.8
23		4.0						2.9

Time: 60.0°W)
Length of time sweep: Record centered on the hour.
Median values.

Table 35

Guam I. (13.6°N, 144.8°E) December, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	240	5.6						3.2
01	240	5.6						3.3
02	240	5.0						3.3
03	250	4.7						3.3
04	250	3.7						3.2
05	250	3.1						3.2
06	270	3.2						3.2
07	250	5.7						3.3
08	236	8.5			115	3.0	2.9	3.2
09	270	10.5	220	4.6	110	3.2	5.1	3.2
10	290	11.1	200	4.6	110	3.5	6.0	2.9
11	295	10.6	200	4.9	110	3.7	6.4	2.7
12	300	9.8	190	4.9	100		6.2	2.6
13	300	10.0	190	4.9	110		6.1	2.6
14	300	10.8	200	4.7	100	4.0	5.5	2.7
15	290	10.7	210	4.6	110	3.6	4.9	2.8
16	265	11.1	250	4.4	100		3.5	3.0
17	240	11.3					3.8	3.2
18	240	11.2					2.7	3.3
19	230	10.0					2.4	3.2
20	240	9.2					2.2	3.2
21	230	8.5						3.2
22	230	7.6						3.2
23	230	6.6						3.3

Time: 150.0°E.
Length of time sweep: Manual operation.
Median values.

Table 36

(Corrections and additions to previously published provisional data)

Trinidad, Brit. West Indies (10.6°N, 61.2°W) December 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00							1.8	
01							2.0	
02							2.3	
03	245						2.3	
04							2.5	
05							2.1	
06							2.4	
07					120			
08					120			
09					120			
10		9.1		4.8	120			
11					120			
12					120		4.2	
13					120			
14					120			
15					120			
16					120	2.8		
17					120			
18								
19							3.4	
20	245						3.2	
21							3.0	
22							2.5	
23							2.3	

Time: 60.0°W.
Length of time sweep: Manual operation.
Median values.

Table 37

(Corrections and additions to previously published provisional data)

Huancayo, Peru (12.0°S, 75.3°W) December, 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	330	—						—
01	300	—						—
02	300	(4.4)						
03	300	(3.4)						
04	260							
05	260							
06	250					2.1	2.8	
07	230					2.8	4.7	
08	265		220	4.6		3.2	8.4	
09	310		210	4.7		3.5	10.6	
10	340		210	4.8		3.6	11.1	
11	345		200	4.9		3.8	10.9	
12	360		200	4.9		3.8	10.9	
13	350		200	4.8		3.7	10.8	
14	330		200	4.7		3.6	10.5	
15	230		210	4.5		3.5	7.7	
16	220					3.0	5.5	
17	240					2.5	3.8	
18	270					1.7		
19	300							
20	330							
21	360							
22	380	(8.0)						
23	330	(7.7)						

Time: 75.0°W.
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 38

(Corrections and additions to previously published provisional data)

Fairbanks, Alaska (64.9°N, 147.8°W) November 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	305							
01								2.9
02	338							2.8
03								2.8
04	333						3.6	
05	318	1.4				—		
06		1.7						
07						—	3.0	
08								
09								
10							2.9	
11		7.8						
12		8.3						
13							2.9	
14							2.9	
15							2.9	
16		5.4				—	2.9	
17	225					—	2.9	
18	235					—		
19								
20	265							
21								
22	262							
23	282							

Time: 150.0°W.
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 39

(Corrections and additions to previously published provisional data)

Great Baddow, England (51.7°N, 0.5°E) November 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		3.2						
01								2.8
02		3.2						
03		3.1						
04								3.0
05								
06								
07		3.7				1.5		
08						1.7	1.8	3.6
09		7.2				2.2	2.6	
10		7.8		(3.4)		2.4	2.6	3.5
11		8.4				2.6	2.3	
12		8.4		3.7		2.6	2.6	
13						2.5	2.6	
14						2.3	2.4	
15						2.0	2.2	
16		6.7					1.8	
17		5.8					2.0	3.2
18		5.0					1.8	3.2
19		4.0						
20		3.1						
21								
22								
23								

Time: 0.0°.
Length of time sweep: Manual operation.
Median values.

Table 40

(Corrections and additions to previously published provisional data)

St. John's, Newfoundland (47.7°N, 52.7°W) November, 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	270							
01	260							
02	260							
03	260							
04	265							
05	260							
06	260		220	2.0	110	1.5		
07	260		230	2.8	110	1.7		
08	240		210	3.3	110	1.9		
09	240		210	3.7	120	2.4		3.6
10	250		200	4.0	120	2.6		
11	250		200	4.3	120	2.8		
12	260		200	4.6	110	2.9		
13	250		200	4.4	110	2.8		
14	250		220	4.2	110	2.6		
15	250		220	4.0	120	2.4		
16	250		230	3.7	130	2.2		
17	250		220	3.5				
18	250		220	3.1				
19	260		220	2.7				
20	245	4.6						
21	250							
22	265							3.2
23	260							

Time: 52.5°W.
Length of time sweep: Manual operation.
Median values.

Table 41

Cairo, Egypt (30.0°N, 31.2°E) November, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.9						2.8
01		3.9						2.9
02		3.8						3.0
03		3.9						3.2
04		3.6						3.3
05		2.8						3.0
06		3.4						3.0
07		7.0						3.4
08		8.8				2.6		3.4
09		9.4				2.9		3.3
10		9.8				3.1		3.2
11		9.6				3.2		3.2
12		9.7				3.2		3.2
13		10.6				3.2		3.2
14		10.0				3.0		3.3
15		9.4				2.6		3.3
16		8.7				2.7		3.4
17		6.8						3.4
18		4.6						3.0
19		4.9						3.0
20		4.7						3.0
21		4.4						3.1
22		4.0						2.8
23		3.9						2.9

Time: 30.0°E.
Median values.

Table 42

(Corrections and additions to previously published provisional data)

Christmas I. (1.9°N, 157.3°W) November 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		7.7						3.2
01								
02		5.6						3.2
03								3.1
04							2.5	3.1
05								
06								3.0
07					100			3.0
08					100			
09					100			2.6
10								
11						—	9.6	
12						—		
13		9.7				—		2.5
14					100	--		
15	285	11.2			100			
16					100			
17					100			2.8
18								2.9
19								2.8
20								
21								
22								
23	225							3.1

Time: 150.0°W.
Length of time sweep: 1.5 Mc to 13.0 Mc in one minute, thirty seconds.
Median values.

Table 43

(Corrections and additions to previously published provisional data)

Huancayo, Peru (12.0°S, 75.3°W) November 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	330							
01	300	—						—
02	270							(3.2)
03	250							
04	250							
05	260							
06	250					2.2	3.0	
07	230					2.9	3.9	
08	240		230	4.8		3.3	4.5	
09	320		210	4.8			6.5	
10	330		210	4.9			6.5	
11	340		210	4.9			6.5	
12	340		210	4.9			6.5	
13	330		205	4.9			6.5	
14	330		210	4.9		3.6	5.6	
15	230	10.3	215	4.8		3.4	4.4	
16	230					3.0	4.2	
17	250					2.4	4.0	
18	280					1.3		
19	320							
20	350							
21	390							(2.4)
22	380	—						—
23	350							

Time: 75.0°W.
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 44

(Corrections and additions to previously published provisional data)

Christchurch, N.Z. (43.5°S, 172.6°E) November, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00							2.8	
01		6.4					2.2	
02							1.4	
03							2.8	
04								
05								
06								
07		6.6						
08								
09								
10						3.4		
11						3.5		
12				5.0				
13								
14								
15								
16				4.6				
17								
18	275							
19							3.0	
20							3.9	
21							3.4	
22							3.5	
23							3.0	

Time: 172.5°E.
Length of time sweep: 1.0 Mc to 13.0 Mc. Automatic.
Median values.

Table 45

(Corrections and additions to previously published provisional data)

Pitcairn I. (25.0°S, 130.0°W) October 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
0000								
0100								
0230								
0300								
0400								
0530					100	1.7		
0600								
0730					103	2.7		
0800								
0930					101	3.3		
1000								
1130					101	3.5		
1200								
1330					100	3.5		
1400								
1530					101	3.2		
1600								
1700								
1800								
1930								
2000								
2100								
2230								
2300								

Time: 127.5°W.
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.
Median values.

Table 46

(Corrections and additions to previously published provisional data)

Watheroo, W. Australia (30.3°S, 115.9°E) October 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	260	4.8					3.0	2.8
01	250	4.7					2.9	2.9
02	240	4.3					3.0	3.0
03	250	3.9					2.9	2.9
04	255	3.8					2.7	2.9
05	250	3.8					2.8	2.9
06	240	5.0					2.9	3.3
07	238	6.3				2.4	3.3	3.3
08	280	6.8	220	4.4		2.9	3.5	3.2
09	310	7.3	215	4.7		3.2	3.8	3.1
10	305	8.0	210	4.8		3.2	3.9	3.1
11	300	8.6	205	4.8		3.2	4.0	3.0
12	300	9.1	210	4.9		3.3	3.9	3.0
13	300	9.0	215	4.9		3.4	4.0	3.0
14	300	8.8	220	4.8		3.4	4.0	3.0
15	290	8.4	222	4.6		3.2	3.7	3.0
16	270	8.2	225	4.3		3.0	4.0	3.1
17	235	8.0				2.4	3.6	3.1
18	235	8.0					2.9	3.2
19	220	7.2					2.9	3.1
20	220	6.4					2.7	3.0
21	240	5.4					2.8	2.9
22	255	5.2					2.8	2.8
23	269	5.2					3.0	2.8

Time: 120.0°E.
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 47

(Corrections and additions to previously published data)

Peshawar, India (34.0°N, 71.5°E) September 1945

Time	*	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
0000								
0100								
0200								
0300								
0400								
0500								
0600	276	5.0				--		
0700	300	6.2				--		
0800		7.1				--		
0900	324					--		
1000	324	8.4				--		
1100	324	8.8				--		
1200	342					--		
1300	348	8.5				--		
1400	342	8.4				--		
1500		8.4				--		
1600	324					--		
1700	324	7.7				--		
1800	312	7.1				--		
1900	312	6.6				--		
2000	312	5.6				--		
2100	312	5.5				--		
2130	306					--		
2300								

Time: Local.
Length of time sweep: Manual operation.
Median values.
*Height at 0.83 foF2.

Table 48

(Corrections and additions to previously published data)

Delhi, India (28.6°N, 77.2°E) September 1945

Time	*	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	345	4.5						
01	300	4.2						
02	300	4.0						
03	300	3.8						
04	300	3.3						
05	330	3.2						
06	330					--		
07	330	6.4				--		
08	360	7.4				--		
09	360	7.7				--		
10	420	8.5				--		
11	420	9.6				--		
12	420	10.4				--		
13	420	11.1				--		
14	420	10.8				--		
15	420	11.3				--		
16	390	10.8				--		
17	360	9.2				--		
18						--		
19	360	6.8				--		
20	360	5.9						
21	360	5.0				--		
22	360	4.6						
23	330	4.6						

Time: Local
Length of time sweep: Manual operation.
Median values.
*Height at 0.83 foF2.

Table 49

(Corrections and additions to previously published data)

Bombay, India (19.0°N, 73.0°E) September 1945

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	--	--						
01	--	--						
02	--	--						
03	--	--						
04	270	(3.7)						
05	--	--						
06	240	5.2						
07	270	6.7						
08	285	7.8						
09	330							
10	390	10.2				--		
11	420	11.0				--		
12	420	11.4				--		
13	405	12.1				--		
14	375	12.4				--		
15	330	13.2				--		
16	315					--		
17	300					--		
18	285	11.8				--		
19	300	10.8						
20	300							3.0
21	308	6.4						
22	330	5.0						
23	--	--						

Time: Local.
Length of time sweep: Manual operation.
Median values.
*Height at 0.83 f°F2.

Table 50

(Corrections and additions to previously published data)

Madras, India (13.0°N, 80.2°E) September 1945

Time	*	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		--						
01								
02								
03								
04		--						
05								
06	270							
07	300	7.2				--		
08	360	8.1				--		
09	420	8.2				--		
10	450	8.2				--		
11	450					--		
12	480	8.5				--		
13	460	8.6						
14	450	9.3				--		
15	420	9.5				--		
16	360					--		
17	360	10.7				--		
18	360	10.5						
19	330	10.4						
20	330	10.0						
21	300	9.5						
22	300	8.5						
23								

Time: Local
Length of time sweep: Manual operation.
Median values.
*Height at 0.83 f°F2.

Table 51

(Corrections and additions to previously published provisional data)

Pitcairn I. (25.0°S, 130.0°W) September 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
0000								
0100								
0230								
0300								
0400								
0530								
0600								
0730					107	2.3		
0800								
0930					100	3.1		
1000								
1130					100	3.4		
1200								
1330					100	3.3		
1400								
1530					102	2.9		
1600								
1700								
1800								
1930								
2000								
2100								
2230								
2300								

Time: 127.5°W.
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.
Median values.

Table 52

(Corrections and additions to previously published provisional data)

Colombo, Ceylon (6.6°N, 80°E) August 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.7						3.4
01								--
02		4.2						3.3
03		3.5						--
04		2.8						3.5
05								
06		3.5						3.2
07		6.5				2.8	3.3	--
08		8.2		4.3		3.0	5.9	2.9
09		8.2		4.5		3.3	6.5	--
10				4.7		3.8	6.6	2.6
11		7.5		4.8		3.8	6.6	--
12				4.8		3.8	7.0	2.6
13		7.4		4.7		3.8	7.0	--
14		7.7		4.6		3.7	6.6	2.6
15		8.0		4.6		3.4	6.4	--
16				4.4		3.1	3.7	2.7
17						2.9	3.8	--
18		9.1					2.7	3.1
19		8.6						--
20								(3.0)
21		7.5						--
22		6.0						(3.4)
23		5.7						--

Time: Local.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 53

Oslo, Norway (59.9°N, 11.0°E) June, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.1					2.0	
01		5.1					2.3	
02		5.0					[illegible]	
03		4.9					[illegible]	
04		4.9					3.3	
05		5.0					3.8	
06		5.0					[illegible]	
07		5.1					4.0	
08		5.1					4.2	
09		5.1					4.1	
10		5.1					4.2	
11		5.1					4.5	
12		5.1					*	
13		5.1						
14		5.1						
15		5.1						
16		5.1						
17		5.1						
18		5.1						
19		5.1						
20		5.1						
21		5.1						
22		5.1						
23		5.1						

Time: 15.0°E.
Length of time sweep: 16.0 Mc to 1.63 Mc in ten minutes.
Median values.
*Data not received for remaining hours.

Table 54

(Corrections and additions to previously published provisional data)

Cape York, Australia (11.0°S, 142.4°E) June, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	3.3					2.6	3.2
01	238	2.8					2.7	3.2
02	232	2.6					2.6	3.2
03	218	2.2					2.7	3.5
04	232	2.3					2.8	3.0
05	235	2.5					2.8	3.1
06	230	2.4					3.0	3.2
07	250	5.0			145	1.8	3.0	3.4
08	250	5.6	240	4.0	110	2.5	3.5	3.5
09	265	7.5	230	4.4	100	2.9	3.8	3.4
10	270	7.9	210	4.6	110	3.2	3.8	3.4
11	270	7.7	205	4.7		3.4	3.9	3.4
12	280	7.7	205	4.7	108	3.5	3.9	3.4
13	280	7.6	210	4.7	120	3.4	4.0	3.3
14	290	7.6	200	4.6		3.4	4.0	3.2
15	275	7.4	200	4.5	100	3.2	4.0	3.2
16	270	7.0	200	4.2	100	2.8	3.7	3.2
17	250	7.3	230	3.8		2.5	3.6	3.2
18	240	6.8					3.3	3.2
19	230	6.0					3.6	3.3
20	225	4.7					3.2	3.3
21	230	3.7					3.1	3.1
22	252	3.4					3.0	3.1
23	250	3.5					2.8	3.2

Time: 150.0°E.
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.
Median values.

Table 55

(Corrections and additions to previously published provisional data)

Brisbane, Australia (27.5°S, 153.0°E) June, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	3.5						3.0
01	270	3.9						3.1
02	260	3.6						3.2
03	260	3.9						3.1
04	240	4.0						3.2
05	230	3.7						3.2
06	240	3.3						3.2
07	220	5.0						3.5
08	220	6.0				2.4		3.5
09	220	6.5	210	4.3	110	2.8	3.8	3.5
10	240	5.8	210	4.4	110	3.0	3.8	3.6
11	250	6.6	205	4.4	110	3.1	4.4	3.6
12	250	6.6	200	4.5	110	3.2	4.3	3.5
13	250	6.8	200	4.5	110	3.1	4.5	3.5
14	242	5.7	190	4.3		3.0	4.5	3.5
15	230	6.7	200			2.7	4.5	3.5
16	230	6.5					3.8	3.4
17	218	5.0					4.3	3.5
18	220	4.4					3.2	3.4
19	250	3.5					3.0	3.2
20	255	3.6						3.1
21	250	3.6						3.2
22	250	3.4						3.1
23	280	3.4						3.0

Time: 150.0°E.
Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds.
Median values.

Table 56

(Corrections and additions to previously published provisional data)

Canberra, Australia (35.3°S, 149.0°E) June, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	3.5						3.0
01	270	3.6						3.0
02	280	3.7					2.4	3.0
03	275	3.9					2.8	3.0
04	250	4.0					2.7	3.0
05	240	4.0						3.2
06	250	3.1						3.0
07	250	3.8						3.1
08	240	5.6			120	2.2		3.2
09	250	6.0	220	3.5	110	2.6		3.3
10	250	6.4	215	4.0	108	2.9	3.6	3.3
11	250	6.4	210	4.0	110	3.0	3.9	3.2
12	260	6.5	210	4.1	100	3.0	3.9	3.3
13	260	6.7	210	4.1	110	3.0	4.1	3.2
14	260	7.0	210	4.0	110	2.9	3.9	3.2
15	250	7.0	210	3.6	110	2.7	3.9	3.2
16	240	6.4			120	2.2	3.0	3.2
17	220	5.7					3.1	3.2
18	230	4.4					3.8	3.1
19	250	3.8						3.1
20	250	3.5						3.1
21	280	3.3						3.0
22	260	3.4						2.9
23	270	3.5						3.0

Time: 150.0°E.
Length of time sweep: 1.5 Mc to 12.5 Mc in two minutes.
Median values.

Table 57

(Corrections and additions to previously published data)

Oslo, Norway (59.9 N, 11.0 E) May, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.7						
01		4.3						
02		4.1						
03		4.0						
04		3.9						
05		4.2						
06		4.6						
07		5.0						
08		5.0						
09		5.0						
10		5.2						
11		5.0						
12		5.0						
13		5.0						
14		5.1						
15		5.1						
16		5.2						
17		5.2						
18		5.5						
19		5.1						
20		5.0						
21		5.1						
22		5.1						
23		5.0						

Time: 15.0°E.
Length of time sweep: 16.0 Mc to 1.83 Mc in ten minutes.
Median values.

Data are medians of tabulations received from England.

Previously reported final values appeared in Table 62, IRPL-F14.

Table 58

(Corrections and additions to previously published provisional data)

Cape York, Australia (11.0°S, 142.4°E) May, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	240	3.1					2.4	3.0
01	240	3.4					2.1	3.2
02	240	2.8					2.2	3.1
03	320	2.5					2.4	3.3
04	350	2.3					2.8	3.0
05	255	2.2					2.9	3.0
06	280	2.4					2.7	3.1
07	245	5.5				(1.8)	3.0	3.4
08	250	7.5	240	4.0		2.5	3.5	3.4
09	260	8.2	230	4.2		3.0	3.7	3.4
10	268	8.1	220	4.5		3.2	3.8	3.5
11	280	8.0	205	4.7		3.4	3.7	3.3
12	282	8.7	200	4.8		3.4	3.8	3.2
13	290	9.2	200	4.7	105	3.4	3.7	3.2
14	280	8.9	220	4.7	110	3.3	3.7	3.2
15	272	8.5	215	4.5	108	3.2	3.7	3.2
16	270	7.6	225	4.2		2.9	3.8	3.2
17	250	7.5				(2.4)	3.4	3.2
18	240	7.3					3.5	3.3
19	225	6.5					3.1	3.2
20	222	5.6					3.0	3.2
21	220	4.3					3.0	3.1
22	250	3.6					2.8	3.0
23	238	3.4					2.8	3.1

Time: 150.0°E.
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.

Median values.

Table 59

(Corrections and additions to previously published data)

Brisbane, Australia (27.5°S, 153.0°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	255	3.9						
01	260	4.0						
02	260	4.0						
03		4.2						
04	240	3.9						
05	250	3.8						
06	240	3.7						3.2
07	220	5.6						
08	220	6.4				2.4		
09	230	7.0	220	4.2	110	2.8		
10	240	7.2	210	4.4	110	3.0	3.4	
11		7.2	202	4.5		3.1	4.0	
12	260	8.8		4.5	110	3.1	3.8	3.4
13	255	7.2	200	4.5	110	3.1	3.9	
14		7.5	200	4.3	110	2.9	3.7	
15	235	7.1	205	3.8		2.7	3.8	
16	220	6.8						3.4
17	217	6.1						
18	220	4.9						
19	240	4.1						
20	260	3.7						
21	250	3.8						
22	250	3.9						
23	265	3.8						

Time: 150°E.
Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds.
Median values.

Data are medians of tabulations received from Australia.

Previously reported final values, Table 36, IRPL-F11, were summaries received by airmail.

Table 60

(Corrections and additions to previously published provisional data)

Canberra, Australia (35.3°S, 149.0°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	3.7						2.9
01	270	3.6						3.0
02	270	3.7						3.0
03	260	4.0						3.0
04	250	4.0						3.0
05	250	3.7						3.0
06	250	3.2						3.1
07	260	4.5				1.6		3.1
08	250	6.5			110	2.3		3.1
09	250	6.5	220	3.8	110	2.7		3.2
10	250	6.6	212	4.0	110	3.0	3.8	3.1
11	260	6.8	210	4.1	100	3.1	3.9	3.2
12	260	6.7	210	4.1	100	3.1	3.9	3.2
13	260	7.0	210	4.1	109	3.1	4.0	3.1
14	260	7.4	220	4.0	105	2.9	3.9	3.1
15	250	7.2	210	3.7	110	2.6	3.9	3.1
16	250	6.7	230	3.0	118	2.3	3.2	3.1
17	240	6.0				1.8	3.0	3.1
18	240	5.0						3.1
19	250	4.2						3.1
20	250	4.0						3.0
21	250	3.7						3.0
22	260	3.6						3.0
23	280	3.6						3.0

Time: 150.0°E.
Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.
Median values.

Table 61

(Corrections and additions to previously published provisional data)

Cape York, Australia (11.0°S, 142.4°E) — April, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	5.1					2.6	3.0
01	230	4.3					2.3	3.3
02	220	4.4					2.3	3.4
03	220	3.1					2.7	3.2
04	250	2.3					2.7	3.0
05	270	2.5					2.8	3.0
06	270	2.4					2.8	3.0
07	245	5.6				1.9	3.0	3.4
08	250	7.7	240	4.1	100	2.5	3.4	3.4
09	272	9.0	230	4.4	100	3.0	3.7	3.4
10	272	10.0	210	4.6	100	3.3	3.8	3.3
11	270	10.2	200	4.7	100	3.5	3.8	3.4
12	290	9.8	200	4.8	100	3.5	3.8	3.1
13	300	10.5	200	4.9	110	3.5	3.8	3.1
14	295	10.8	210	4.7	102	3.4	3.8	3.2
15	295	10.6	200	4.6	110	3.3	3.8	3.1
16	280	11.0	220	4.3	100	3.0	3.7	3.1
17	252	10.5	245	4.2	100	2.6	3.4	3.2
18	240	9.5					3.4	3.2
19	225	8.6					3.2	3.1
20	228	7.5					3.4	3.0
21	225	6.1					3.1	3.0
22	250	5.0					3.0	2.9
23	250	5.3					2.7	2.9

Time: 150.0°E.
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.
Median values.

Table 62

(Corrections and additions to previously published data)

Brisbane, Australia (27.5°S, 153.0°E) — April, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280						2.7	
01	285						2.6	
02	270							3.0
03	250							3.3
04	260							
05	250	3.3						
06	235	4.0						3.4
07	220	5.8						
08	230	6.6						
09	250	7.5	210				3.7	
10	250	8.1			110		3.8	
11		8.0	200		110		4.0	
12		7.7	200		110	3.2	3.7	
13	270	7.8	200		---		3.7	
14	260		210		---		3.8	3.3
15	250	8.5	210	4.3			3.7	
16		7.8			---		3.6	
17	220	7.0					2.9	
18	220	6.0						
19	240	5.0						3.1
20		4.8						
21	260	4.5					2.6	
22	260	4.4						
23	280						3.2	3.0

Time: 150°E.
Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds.
Median values.

Data are medians of tabulations received from Australia.

Previously reported final values, Table 33, IRPL-F10, were summaries received by airmail.

Table 63

(Corrections and additions to previously published provisional data)

Canberra, Australia (35.3°S, 149.0°E) — April, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	295							
01	300						2.5	
02	290							
03	260							
04	255	3.8						
05	250	3.3						
06	250	3.1						
07	250				130	2.0		3.0
08	250		240	3.5	110	2.4		3.1
09	260	6.5	230	3.9	110	2.8		3.1
10	270	6.7	210	4.0	110	3.0		
11	270	7.2	200	4.0	100	3.1		
12	270		200	4.1	100	3.2		
13	270	7.8	210	4.1	100	3.1		
14	265	7.9	210	4.0	100	3.0		
15	260	8.0	220	3.9	100	2.8		3.0
16	250		230	3.5	110	2.5		
17	250				120	2.1		
18	250	5.5						3.1
19	250	5.1						
20	250							
21	255	4.3						
22	260	4.0						
23	290	4.0						

Time: 150.0°E.
Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.
Median values.

Table 64

(Corrections and additions to previously published data)

Cape York, Australia (11.0°S, 142.4°E) — March, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	5.3					2.8	3.0
01	226	5.7					2.8	3.3
02	200	6.0					2.7	
03	202	4.3					2.7	
04	220	3.3					2.8	3.2
05	250	2.6					2.8	3.1
06		2.5					2.7	3.0
07		4.9			110		2.9	3.5
08	240		220	4.2	100		3.3	3.5
09	270	7.4	202	4.3	100		3.8	
10	295	8.4	200				3.8	3.1
11	300	9.7	190				3.9	3.1
12	292	10.5	200		100		3.8	3.2
13	300	11.0	200				3.8	3.1
14	280	11.5	192				3.8	3.2
15	255	11.5	200	4.8	100		3.8	3.5
16	250	10.9	210	4.3	100	3.1	3.8	
17	240	9.2	200		100		3.5	
18	230	8.0			102	2.0	3.4	3.0
19	240	7.5					3.2	
20		7.0					3.2	2.9
21	250	5.5					3.0	2.9
22	250	5.3					3.0	2.9
23	250	6.0					3.0	

Time: 150.0°E.
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.
Median values.

Data are medians of tabulations received from Australia.

Previously reported final values, Table 41, IRPL-F10, were summaries received by airmail.

Table 65

(Corrections and additions to previously published provisional data)

Brisbane, Australia (27.5°S, 153.0°E) March, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	4.6					2.5	2.9
01	270	4.6					3.0	3.0
02	270	4.4					2.9	3.1
03	250	4.0					2.4	3.2
04	280	3.5						3.2
05	250	3.3						3.2
06	230	4.3						3.5
07	222	5.5						3.4
08	252	6.0	230	4.2	112	2.7	2.6	3.4
09	280	7.0	215	4.4	112	2.9	3.3	3.2
10	275	7.5	200	4.6	115	3.2	4.0	3.2
11	290	8.1	200	4.8	110	3.3	4.4	3.2
12	280	8.5	200	4.6	110	3.3	4.4	3.2
13	280	8.0	200	4.6	110	3.3	4.4	3.2
14	290	7.5	210	4.5	115	3.2	4.3	3.2
15	270	7.4	220	4.4	112	3.0	4.3	3.2
16	240	7.4	225	4.1		2.7	3.2	3.3
17	235	6.8					2.5	3.4
18	220	6.4					2.5	3.3
19	240	5.8					2.8	3.0
20	260	5.2					2.6	3.0
21	290	4.9					2.5	2.9
22	290	4.8					2.3	2.9
23	290	4.8					2.7	3.0

Time: 150.0°E.
Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds.
Median values.

Table 66

(Corrections and additions to previously published provisional data)

Canberra, Australia (35.3°S, 149.0°E) March 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	4.2					2.8	3.0
01	290							
02	280	3.8						
03	270							
04	275	3.5						
05	280	3.0						
06	250	3.6						
07	255	4.7	240	3.3	120	2.2		
08	275	5.4	230	3.7	110	2.6		
09	295		220	4.0	110	2.9	3.6	3.0
10	300	6.2	210	4.1	110	3.1	3.6	3.0
11	300	6.5	215	4.3	110	3.2	5.0	
12	300	6.7	210	4.4	100	3.3	3.7	
13	300	7.0	210	4.4	100	3.1		
14	290	6.5	210	4.2	100	3.0		3.0
15	280	6.4	220	4.0	100	2.9		3.0
16	280		225	3.9	110	2.7		
17	260	6.3	230	3.1	110	2.3		
18	250	6.1			120	2.0		3.1
19	250							
20	260	5.4						
21	270	5.0						3.0
22	285							3.0
23	290	4.3					2.3	3.0

Time: 150°E.
Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.
Median values.

Table 67

(Corrections and additions to previously published data)

Cape York, Australia (11.0°S, 142.4°E) February 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		7.4					3.5	
01		6.9					3.0	
02	215	5.6					3.0	
03	220	5.0					2.8	
04	215	4.8					3.0	
05		3.4					3.0	
06	230	2.8					3.2	
07	220	4.7			110	1.7	3.0	
08	250	5.7	200				3.5	3.4
09	300	6.4	200		100		3.8	
10	325	7.2			100	3.3	3.8	
11	355	8.5	200		100		4.8	
12	340	9.9	200		100		4.7	
13	310	11.0	190		100	3.5	4.6	3.1
14	300	11.6	190	4.7	100		4.6	3.1
15	272	11.8	198		100		3.8	
16	265	11.5	200	4.3	100		3.6	
17	260	10.1	200		100		3.5	
18	240		210	3.5	100		3.4	
19	240	8.0					3.3	
20	250	7.2					3.0	
21	270	7.4					3.3	
22	265	7.2					3.0	
23	255	7.1					3.0	

Time: 150.0°E.
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.
Median values.

Data are medians of tabulations received from Australia.

Previously reported final values, Table 47, IRPL-F10, were summaries received by airmail.

Table 68

(Corrections and additions to previously published provisional data)

Brisbane, Australia (27.5°S, 153.0°E) February 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300						3.6	
01	290	5.0					3.6	
02	270	4.3					2.3	3.0
03	290	3.7						3.0
04	280							
05	270	3.0						3.0
06	240	4.6						
07	240							3.3
08	325		230	4.3	120	2.8		3.0
09	320	6.3	210	4.4	120	3.1	4.4	3.0
10	330		200	4.6	120	3.3	5.0	2.9
11	340	7.2	205	4.7	120	3.4	4.5	2.9
12	340	7.5	200	4.7	112	3.4	4.4	2.9
13	320	7.4	220	4.6	115	3.4	4.5	2.9
14	320		210	4.5	120	3.3	4.4	
15	315	7.7	225	4.4	120	3.1	3.9	3.0
16	300		230	4.3	120	2.9	3.4	
17	260		250	3.7			2.9	3.2
18	250	6.5					3.6	3.1
19	265						3.0	3.0
20	290	5.4						2.8
21	300	5.1						2.8
22	320	5.0					2.8	
23	310						2.8	

Time: 150.0°E.
Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds.
Median values.

Table 69

(Corrections and additions to previously published provisional data)

Canberra, Australia (35.3°S, 149.0°E) February 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	4.2						3.0
01	290	4.3						3.0
02	260	4.1						3.0
03	270	3.6						3.0
04	260	3.0						3.0
05	270	2.9						3.0
06	250	4.0				2.0		3.0
07	285	4.8	235	3.5	110	2.4		3.0
08	310	5.0	230	3.8	110	2.7		3.0
09	320	5.4	210	4.0	110	3.0	4.9	3.0
10	330	5.8	210	4.1	100	3.1	5.5	3.0
11	320	6.0	210	4.3	100	3.3	5.4	2.9
12	340	6.1	210	4.3	100	3.4	5.2	2.9
13	335	6.2	210	4.3	100	3.4	5.2	2.9
14	340	6.1	210	4.2	100	3.2	4.0	2.9
15	310	6.0	210	4.1	100	3.1	3.8	3.0
16	300	6.2	210	4.0	100	3.0		3.0
17	290	6.2	210	3.7	110	2.6		3.0
18	260	6.0	235	3.2	120	2.2		3.1
19	250	5.8						3.0
20	255	5.5						3.0
21	270	5.1						3.0
22	280	4.8						3.0
23	300	4.6						3.0

Time: 150.0°E.
Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.
Median values.

Table 70

(Corrections and additions to previously published data)

Cape York, Australia (11.0°S, 142.4°E) January, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	242	6.5					3.0	3.1
01	230	5.9					3.0	3.1
02	240	5.4					3.2	3.1
03	240	5.0					2.9	3.2
04	220	4.1					2.5	3.3
05	240	3.2					2.7	3.2
06	245	3.2					2.5	3.3
07	220	4.9			100	2.1	3.0	3.4
08	290	5.9	210	4.1	100	2.7	3.5	3.3
09	315	6.4	200	4.3	95	3.1	3.8	3.0
10	360	7.3	198	4.6	100	3.4	3.9	2.8
11	385	8.4	195	4.7	98	3.5	4.9	2.8
12	390	9.6	190	4.7	95	3.6	4.5	2.8
13	335	11.2	190	4.7	95	3.5	4.2	3.0
14	290	12.0	185	4.8	95	3.5	4.6	3.1
15	275	11.2	190	4.8	95	3.4	4.9	3.1
16	275	9.5	202	4.4	92	3.2	3.9	3.1
17	275	8.2	202	4.1	90	2.9	3.6	3.0
18	260	7.2	220	3.8	100	2.3	3.5	3.0
19	280	7.0					3.5	2.9
20	290	7.0					3.1	2.8
21	270	7.0					3.0	2.9
22	250	7.1					2.8	3.0
23	250	7.1					3.0	3.0

Time: 150.0°E.
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.

Median values.

Data are medians of tabulations received from Australia.

Previously reported final values, Table 40, IRPL-F8, were summaries received by airmail.

Table 71

(Corrections and additions to previously published provisional data)

Brisbane, Australia (27.5°S, 153.0°E) January, 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	5.3					3.7	
01	275	4.9					3.6	
02	300						3.7	
03	300	3.7					3.1	2.9
04	295	3.2						
05	270	3.8						
06	270	4.8	240	3.5				
07	288	5.4	230	4.0	120	2.6	3.5	
08	385	5.5	230	4.4	120	2.9	3.8	2.9
09	350	8.3	210	4.5	115	3.2	5.2	
10	330	7.3	220	4.6	120	3.4	4.9	
11	340	7.5	220	4.6	115	3.5	5.1	
12	360		210	4.7	120	3.5	6.0	
13	380	7.6	210	4.6	120	3.4	4.0	
14	325		220	4.6	120	3.4	4.8	
15	315	7.8	225	4.5	120	3.2	4.4	
16	300	7.4	220	4.2	125	2.9	3.9	3.0
17	280		230	3.8		2.5	4.6	
18	270	6.1					3.9	3.0
19	280	5.5					3.7	
20	310	5.7					3.7	
21	320	5.7					3.7	2.8
22	310	5.8					3.7	
23	300	5.8					3.8	

Time: 150.0°E.
Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds.
Median values.

Table 72

(Corrections and additions to previously published provisional data)

Canberra, Australia (35.3°S, 149.0°E) January 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	285	4.9						
01	270	4.5						
02	270	3.9						
03	290	3.3						
04	300	3.0						
05	270	3.3						
06	270	4.3	240	3.4	120	2.2		3.1
07	300	5.0	240	3.8	110	2.5	4.[illegible]	
08	300	5.3	225	3.9	110	2.8	5.0	
09	330	5.8	210	4.1	110	3.1	5.0	
10	320	6.0	210	4.3	110	3.3	5.0	
11	320	6.1	210	4.4	110	3.4	5.0	
12	320	6.0	210	4.5	110	3.5	5.1	
13	325	6.1	210	4.4	105	3.4	5.0	
14	345	6.0	210	4.2	102	3.3	4.9	
15	320	6.2	210	4.2	110	3.1		
16	310	6.2	210	4.0	110	3.0		
17	300	6.4	220	3.8	110	2.7		
18	280	6.0	240	3.4	110	2.4		
19	250	5.6						
20	260	5.2						3.0
21	295	5.1						
22	300	5.0						
23	290	4.8					3.5	3.0

Time: 150.0°E.
Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.
Median values.

Table 73

(Corrections and additions to previously published provisional data)

Cape York, Australia (11.0°S, 142.4°E) December 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	7.4					3.4	3.0
01	250	6.8					3.4	3.0
02	250	6.3					3.6	3.1
03	240	6.0					3.1	3.2
04	240	4.6					3.2	3.2
05	250	3.9					3.3	3.2
06	250	4.0					3.0	3.3
07	230	5.6			100	2.2	3.3	3.5
08	275	5.8	220	4.2	100	2.9	3.4	3.2
09	320	6.5	225	4.4	100	3.2	3.8	3.0
10	345	7.2	200	4.6	100	3.4	4.4	2.8
11	380	7.9	200	4.7	100	3.6	4.6	2.7
12	398	9.0	200	4.7	100	3.6	5.0	2.7
13	348	10.0	200	4.7	100	3.6	4.0	2.8
14	320	10.8	200	4.7	100	3.5	4.1	2.9
15	290	10.6	198	4.6	100	3.4	4.0	3.0
16	295	9.6	200	4.5	100	3.1	3.7	2.9
17	290	9.5	205	4.6	100	2.7	3.4	2.9
18	250	8.6		4.0			3.6	2.8
19	272	8.2					3.7	2.8
20	300	8.2					3.9	2.8
21	280	8.6					5.4	3.0
22	250	8.3					3.8	3.1
23	240	7.6					3.4	3.1

Time: 150.0°E.
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.

Median values.

TABLE 74

IONOSPHERE DATA-I

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Hourly values of $h'F_2$ in km for January 1946 (Month)

Records measured by: J.M.C. J.J.H.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	300	(310)	(280)	270	240	240	230	260	230	230	250	250	260	240	240	240	220	210	200	230	260	260	(260)	(280)
2	280	250	240	250	250	240	260	250	210	230	220	220	230	240	250	230	230	220	230	230	260	250	(280)	270
3	(270)	240	270	270[K]	240[K]	(290)[K]	(290)[K]	(340)[K]	290[K]	260[K]	400[K]	860[K]	600[K]	690[K]	470[K]	280[K]	(350)[K]	260[K]	250[K]	310[K]	(360)[K]	(360)[K]	(360)[K]	(350)[K]
4	(340)[K]	(380)[K]	280[K]	(300)[K]	290[K]	(280)[K]	[280][AK]	280	220	230	240	260	250	260	250	250	220	220	230	240	240	260	260	280
5	(320)	280	A	A	A	A	A	A	(240)	240	240	230	240	240	240	230	220	220	210	220	240	230	(270)	280
6	250	280	270	(280)	280	240	220	240	230	210	250	250	230	240	250	230	230	210	220	230	230	(300)	(300)	[280][A]
7	(250)	(250)	270	260	250	230	250	270	210	220	240	250	240	250	240	230	230	210	210	230	220	(300)	280	270
8	260	270	250	260	240	250	230	230	220	220	250	260	250	220	230	(300)	230	220	220	230	240	(270)	(300)	(290)
9	260	(270)	270	240	220	230	(270)	250	210	220	220	260	250	230	250	260	240	210	210	220	230	(280)	280	270
10	270	260	250	260	250	230	220	240	210	220	260	260	230	240	250	250	230	220	240	230	240	(270)	(300)	280
11	270	280	280	230	240	230	260	280	240	240	250	250	250	240	250	240	230	220	220	230	230	240	260	280
12	(260)	280	(280)	250	240	220	250	230	(220)	230	230	250	240	250	270	250	240	220	200	220	240	250	260	270
13	270	280	280	260	260	(240)	240	(240)	220	220	(280)	250	240	230	260	250	230	220	220	220	240	250	280	260
14	270	270	270	240	270	270	240	230	210	220	240	250	230	240	250	250	230	220	220	220	230	260	260	270
15	260	270	270	240	240	240	240	240	220	220	250	[250][C]	(250)	230	250	260	230	230	220	240	230	240	240	250
16	270	250	260	290	270	250	270	250	230	230	230	260	240	240	260	250	230	220	220	240	230	230	240	230
17	(280)	(280)	250	240	240	260	(270)	270	220	230	250	240	250	250	270	250	230	230	220	230	250	240	250	270
18	260	270	250	260	240	230	(270)	(270)	230	230	240	250	240	260	250	250	230	230	250	230	240	250	250	280
19	250	260	230	230	250	240	240	230	230	210	260	260	240	250	240	250	250	230	220	220	220	240	260	280
20	280	270	240	220	220	220	230	250	230	230	240	250	240	230	240	240	240	230	220	220	220	260	270	270
21	260	270	260	260	280	220	240	240	220	C	C	C	C	240	240	250	230	230	C	C	220	270	260	260
22	250	260	[270][A]	260	240	210	(260)	(280)	220	240	230	250	240	250	240	240	[240][C]	230	220	210	230	230	270	270
23	290	280	280	290	240	(290)	(300)	(280)	230	250	260	250	250	250	260	250	240	240	250	210	220	270	280	280
24	300	300	290	250	230	200	(320)	290	230	270	290	270	250	250	260	260	240	240	230	220	230	240	260	270
25	270	(260)	260	270	240	230	230	240	220	240	240	250	280	260	260	250	230	230	220	220	230	270	280	260
26	270	260	260	260	230	230	(280)	270	230	250	240	250	250	250	260	250	230	230	220	230	230	250	280	270
27	280	240	240	250	250	260	260	240	240	220	230	260	260	260	260	240	240	230	230	220	240	240	280	280
28	(280)	280	260	260	250	240	240	230	230	240	250	250	260	250	250	250	240	220	230	240	220	250	(260)	(270)
29	(270)	(300)	280	270	270	220	(240)	270	230	230	250	260	250	250	250	250	230	230	210	230	230	250	270	(270)
30	(270)	270	270	250	250	240	260	230	220	230	250	250	250	250	250	[250][C]	260	230	220	240	210	(260)	(290)	(270)
31	(270)	270	260	260	C	C	C	C	C	C	240	260	280	280	260	260	250	230	220	220	230	260	280	(270)
Sum																								
Median	270	270	270	260	240	240	250	250	225	230	245	250	250	250	250	250	230	230	220	230	230	250	270	270

TABLE 75

IONOSPHERE DATA-2

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

TIME: 75°W MERIDIAN

Hourly values of f^oF_2 in Mc for January (Month) 1946

Records measured by: J.M.C., J.J.H.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.2	(2.2)	3.0	2.8^F	(3.5)^F	(2.9)^F	2.4^F	2.3^F	5.3	6.0	7.4	8.0	9.1	9.4	7.4	7.6	6.5	(7.1)	(5.6)	(3.6)^F	3.4^F	2.8^F	(2.2)^F	2.1^F
2	2.2	2.3^F	2.4^F	2.3^F	2.4^F	2.8^F	2.8^F	3.3^F	(5.0)	6.2	6.6	7.2	7.0	7.8	8.0	6.6	7.4	6.7	3.8	4.0	3.2^F	3.0^F	2.6^F	(2.7)^F
3	2.9^F	2.9^F	2.7^F	2.7K^F	2.2K^F	(1.7)K^F	1.8K^F	1.8K^F	(2.4)K^F	(3.3)^K	(4.3)K^F	3.8^K	4.2^K	4.2^K	(5.0)K^F	6.0^K	(5.2)K^F	(8.7)^K	7.6^K	(4.6)^K	2.1K^F	2.2K^F	2.1K^F	(2.1)K^F
4	(1.8)K^F	(1.8)K^F	1.9K^F	(1.9)K^F	(1.5)K^F	(1.7)K^F	[1.8]K^A	2.1^F	5.4	7.6	8.7	9.2	8.6	9.2	8.3	9.2	10.0	(7.8)	(5.8)	(3.8)	(3.1)	(3.0)	2.7^F	2.5
5	2.1^F	2.0^F	A	A	A	A	A	A	5.3	(7.2)	6.7	6.6	(7.3)	(8.4)	8.2	6.8	6.6	(6.4)	5.0	4.4	4.2	(2.4)	2.2	2.2
6	(2.3)^F	(2.3)^F	(2.6)^F	(2.3)^F	(2.5)^F	2.8^F	2.0^F	2.5^F	5.5	5.2	(7.2)	7.8	8.5	(8.6)	(8.0)	(7.4)	8.2	6.0	5.5	3.6	(3.2)	2.0	1.9	(2.0)
7	2.0^F	2.0^F	1.9^F	2.0^F	2.3^F	2.5^F	2.1^F	2.3^F	4.6	(7.0)	6.5	(7.7)	7.4	(7.8)	(7.2)	6.8	7.6	6.1	5.7	3.4^F	2.1^F	1.9^F	2.0^F	2.2^F
8	2.0^F	2.1^F	2.5^F	2.7^F	2.9^F	3.1	2.9	2.6^F	4.8	5.7	6.2	7.4	8.2	(8.0)	5.9	(7.0)	6.8	5.9	4.2	3.9	(2.5)	1.8^F	1.8^F	1.9^F
9	2.3^F	2.0^F	2.0^F	(2.3)^F	2.2^F	2.2^F	2.2^F	2.6	5.0	5.2	5.8	7.4	7.6	(7.2)	6.8	6.4	6.9	5.9	4.9	(4.8)	3.2	2.3^F	(2.5)	2.7^F
10	(2.4)^F	(2.4)^F	2.9^F	3.0^F	3.5^F	3.7^F	2.9	2.9	4.8	5.5	7.0	8.4	7.2	6.8	7.6^H	8.0	7.0	5.7	4.8	4.2	2.9	(2.5)	2.4	2.8
11	3.0	(2.9)^F	(2.8)^F	3.4^F	3.0^F	2.4	2.3^F	2.5^F	4.9	5.9	6.4	8.0	8.4	7.4	7.5	6.6	6.4	6.4	5.0	4.4	(3.4)	3.1	2.6	2.5
12	2.3^F	2.1^F	(2.4)^F	(2.7)^F	(3.7)^F	(3.3)^F	(2.3)^F	2.1^F	(5.1)	5.3	(5.9)	7.2	7.2	(6.7)	(6.4)	6.8	6.8	(6.2)	5.2	(3.4)^F	(2.8)^F	2.7^F	2.7	(2.6)^F
13	(2.4)^F	(1.9)^F	(1.8)^F	(1.7)^F	(1.9)^F	(1.9)^F	(1.9)^F	(2.3)^F	(5.1)	(5.3)	(6.4)	8.0	7.4	6.4	7.6	7.6	6.4	5.2	4.8	3.9	3.2	2.9	(2.3)^F	(2.4)^F
14	(2.4)^F	(2.5)^F	(2.2)^F	2.3^F	(2.4)^J_F	(2.4)^J_F	3.1	3.2	5.0	6.2	7.0	7.8	7.4	7.0	7.2	7.0	6.6	(6.5)	5.6	4.6	3.4	3.2	3.0	3.1
15	3.0	(2.7)^F	(2.3)^J_F	(2.7)^F	(3.0)^F	(2.7)^F	(2.7)^F	(3.2)^F	(6.2)	5.5^F	(7.2)	[8.0]^C	(8.2)	6.8	6.8	7.2	6.6	6.2	(5.4)	5.2	4.4	4.6	4.0	4.0
16	3.6	3.5^F	3.5^F	3.3^F	3.5^F	3.4^F	3.2^F	3.5	(5.4)	6.6	7.3	9.3	7.6	(7.6)	[7.3]^C	7.3	6.6	6.0	5.6	(5.8)	4.9	3.9	3.2	3.2
17	(2.5)	2.9^F	3.2^F	3.1^F	(2.3)	(2.2)	(2.2)^F	3.1^F	(5.6)	7.2	7.6	8.4	8.6	7.4	9.0	7.5	6.8	(7.2)	(6.2)	4.9	(3.6)	3.8	3.4^F	3.1^F
18	2.9^F	2.7^F	3.0^F	3.0^F	3.5^F	3.2^F	3.3^F	3.5^F	5.7	C	C	9.4	9.0	7.7	7.7	7.5	7.0	7.0	7.4	(6.4)	5.8	3.7^F	4.3	4.2^F
19	4.3	4.6	4.6	4.4	4.4	4.3	3.3^F	3.4^F	(6.0)	5.6^F	7.8^F	(8.1)	7.5	8.6	8.0	7.2	7.4	7.1	(7.0)	6.0	4.2	3.4	3.0	2.9^F
20	2.7^F	3.2^F	3.5^F	3.4^F	3.0^F	2.6^F	(2.3)	2.7^F	5.6	6.4	(7.7)	8.6	8.7	7.2	[7.3]^C	7.0	(7.2)	6.0	5.4	5.0	3.6	2.7	2.6	3.0^F
21	2.9^F	(2.9)^F	2.5^F	2.3^F	2.5^F	3.0	3.1	3.5	(5.8)	C	C	C	C	7.8	7.2	7.4	7.0	6.0	C	C	4.6	4.5	4.4	4.0
22	3.7	3.2	[2.7]^A	3.7^F	3.7^F	(2.8)	2.4^F	2.8	5.2	7.6	8.6	10.0	8.6	(8.2)	7.4	7.1	[7.0]^C	(6.8)	(6.0)	(5.5)	4.2	3.5	(2.9)	3.0
23	(3.0)	(3.2)	(3.0)	(2.8)	2.6	2.2	(2.2)	(3.0)	(5.3)	6.8	7.9	(8.2)	7.5	6.8	7.0	7.2	6.6	6.7	7.2	6.0	3.4^F	(2.8)	2.7	2.8
24	2.8	3.1	3.1^F	3.2^F	3.5^F	(1.9)^F	(1.5)^J_F	2.2^F	4.9	(6.4)	6.7	7.0^F	7.0	7.0	6.8	6.8	7.2	6.8	(6.3)	(6.2)	4.2	3.1	3.1	(2.5)
25	2.2^F	(2.9)^F	(2.4)^F	1.9^F	(2.4)^F	(2.6)^F	2.5^F	(2.4)^F	(5.0)^F	(6.0)	6.6	7.4	8.2	8.8	7.3	(7.2)	6.3^F	(6.4)	5.1	4.7	3.8^F	3.2	3.3^F	3.1^F
26	2.8^F	(2.7)^F	(3.0)^F	2.9^F	2.2^F	2.0^F	1.8^F	2.7^F	5.0	6.6	6.3	7.1	7.8	7.6	(7.2)	(7.0)	(6.8)	6.8	6.5	5.3	4.4	3.4^F	3.0	3.0^F
27	3.2^F	2.7^F	(2.5)^F	(2.4)^F	(2.4)^F	2.8	2.9	(3.4)	5.8	6.4	6.4	7.0	8.8	7.5	(7.4)	7.0	7.3	6.6	5.7	4.5	(3.6)	(2.7)	2.4^F	2.4
28	2.3^F	(2.5)^F	(2.8)^F	(3.0)^F	(2.5)^F	(3.2)^F	(2.5)^F	3.2	5.5	6.0	6.4	6.7	(7.6)	7.4	6.6	7.0	6.6	6.6	(5.8)	(5.5)	4.0^F	2.9^P	(2.6)	2.3^F
29	2.1^F	(2.1)^F	2.2^F	(2.8)^F	3.2^F	3.2^F	2.3^F	3.0^F	(5.6)	6.6	7.0	8.3	8.0	7.8	7.4	(7.2)	7.4	6.8	5.6	5.0	3.6^F	2.9^F	(2.6)	(2.6)
30	(2.6)^F	(2.6)^F	(2.5)^F	(2.7)^F	(3.1)^F	3.2^F	3.2^F	3.6^F	(5.6)	6.2	7.2	7.4	7.4	7.8	7.3	[7.4]^B	7.6	(7.2)	5.6	(5.3)	4.0	2.9^F	(2.8)	(2.8)^F
31	(2.6)^F	2.7^F	2.9^F	3.0^F	C	C	C	C	C	C	7.4	8.7	8.8	8.2	8.1	8.2	8.2	(7.2)	(6.4)	5.7	4.1	3.3	3.3	3.1
Sum																								
Median	2.5	2.7	2.6	2.8	2.6	2.8	2.4	2.8	5.3	6.2	7.0	7.9	7.7	7.6	7.3	7.2	6.9	6.6	5.6	4.8	3.6	2.9	2.7	2.7

TABLE 76

IONOSPHERE DATA - 3

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Half hourly values of f^oF_2 in Mc for January 1946 (Month)

Records measured by: J.M.C., J.J.H.

TIME: 75°W MERIDIAN

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	2.2	2.4F	(2.9)	(3.3)F	3.3F	~7F	2.3F	4.0	6.6	(6.6)	6.9	8.6	9.4	8.4	8.1	7.4	7.4	(6.0)	(4.4)	3.7	3.4F	(2.7)F	(~1)F	2.2
2	2.2	2.3F	2.5F	2.3F	2.7F	2.8F	2.8F	4.5	6.4	6.2	8.5	7.8	7.4	7.6	8.0	6.7	6.5	5.4	4.0	3.4F	3.3F	2.7F	2.6	2.2F
3	3.0F	(2.9)F	2.7F	(2.6)FK	(1.7)FK	1.8FK	1.6FK	(2.3)FK	(3.0)FK	(4.1)FK	4.0K	(4.0)FK	4.3K	4.7K	5.9K	5.0K	(6.4)K	7.8K	(7.4)K	2.1FK	2.0FK	2.1FK	(2.0)FK	(1.9)FK
4	(1.8)FK	2.0FK	2.0FK	(1.8)FK	(1.6)FK	[1.7]AK	[1.8]AK	(3.6)F	(6.6)	(7.0)	8.2	9.4	8.8	9.3	(9.2)	(9.8)	(9.2)	6.5	(5.4)	(3.3)	(3.1)	(3.1)F	2.4F	2.2F
5	2.0	(2.0)F	A	A	A	A	A	A	5.3	6.6	8.0	8.0	(8.8)	(8.4)	7.4	7.0	6.0	5.6	4.8	4.2	3.8	2.4	2.1	(2.5)
6	(2.2)F	(2.5)F	(2.6)F	2.5F	2.8F	2.6F	(2.2)F	4.1	5.9	(5.8)	8.0	8.4	(8.8)	7.6	7.8	(7.2)	(7.2)	(6.6)	4.4F	3.2	2.3	1.8	(2.0)	2.1F
7	2.0F	2.0F	2.0F	2.2F	2.5F	2.2F	1.7F	3.8	6.2	(6.5)	(7.8)	(8.0)	(7.8)	(8.6)	7.4	7.4	7.2	6.6	4.2	2.7	2.0F	2.0F	2.2F	2.1F
8	2.1F	2.3F	2.8F	2.8F	3.0	3.0	2.5F	3.9	5.3	5.4	6.4	7.8	(8.4)	(7.8)	5.7	7.4	[6.5]C	4.6	4.2	3.2	2.1	1.8F	1.8F	2.1F
9	2.0F	(2.1)F	(2.2)F	2.3F	2.2F	(2.3)	(2.2)	(4.2)	5.5	6.0	6.2	7.6	7.2	6.7	6.1	6.4	6.2	5.8	4.7	4.0	2.7	2.5	2.5F	2.7F
10	(2.4)F	(2.5)F	(3.0)F	3.2F	3.7	3.4	2.5	4.3	(5.4)	5.9	8.0	8.5	7.0	(6.6)	7.4	7.2	6.0	5.0	4.6	3.6	2.6	(2.5)	(2.6)	3.0
11	2.9F	(2.4)F	3.4F	(3.1)F	(3.2)F	2.2F	2.1F	4.1	5.2	(6.0)	7.0	(7.8)	7.6	7.2	7.2	6.5	6.8	5.6	4.6	4.1	3.2	2.7	2.6	2.5F
12	(2.1)F	(2.2)F	(2.4)F	(3.5)F	(3.5)F	(3.0)F	[2.2]C	(3.8)	5.2	6.0	(7.2)	7.4	6.6	(5.8)	6.8	7.0	6.6	5.9	4.1	3.1F	(2.7)F	2.6F	2.7	2.5F
13	(2.3)F	(1.8)F	[1.8]C	(2.0)F	(1.9)F	(1.9)F	(1.9)F	4.0	5.4	6.0	7.6	7.8	6.6	6.6	7.0	7.2	5.9	4.8	4.5	3.4	3.1	(2.6)F	2.3F	2.5F
14	(2.2)F	2.5F	2.2F	(2.2)F	2.2F	(2.4)F	2.9	4.3	5.5	6.4	7.8	(8.4)	7.2	7.2	7.0	6.8	6.5	(6.2)	5.2	4.1	3.2	3.1F	3.0	3.1
15	2.9	2.5F	(2.4)F	(2.7)F	(2.7)F	(2.7)F	(2.7)F	(4.6)F	5.8	(7.0)	[7.5]C	8.3	7.0	6.5	7.0	7.0	6.2	5.8	[5.3]C	(5.2)	4.7	4.0	3.8	3.7
16	3.7	3.5F	3.4F	3.5F	3.5F	3.3F	3.2	4.3	6.0	(6.8)	(7.8)	(8.4)	[7.6]C	7.1	(7.4)	(7.3)	6.4	5.8	5.7	(5.4)	(4.5)	3.7	3.6	2.5
17	2.6	3.1F	3.2F	2.3F	2.2F	2.2F	2.4F	4.5	6.4	7.6	8.2	8.4	7.6	8.0	8.4	7.4	(6.8)	(6.4)	5.0	3.8	3.8	3.5	2.0F	3.1F
18	2.7F	2.6F	2.9F	3.2F	3.5F	3.3F	3.2F	4.5	C	C	9.0	9.2	8.2	7.6	8.0	7.4	7.1	(6.8)	7.0	(6.2)	(5.2)	4.1	4.0F	4.3
19	4.5	4.7	4.5	4.2	4.5	4.1	3.1F	4.5	6.6	(7.6)	8.6	7.6	8.0	8.2	7.2	7.2	7.4	7.3	6.8	(5.0)	3.8	3.2	2.7F	2.7F
20	3.1	3.5F	3.5F	3.1F	2.9F	2.5F	2.3F	4.2	(6.4)	7.5	7.4	8.8	7.8	7.0	7.5	7.2	6.2	5.6	5.4	4.3	2.7	2.6	2.9	3.0
21	2.9F	2.6F	2.4F	2.3F	2.9	3.0	3.0	5.0	6.0	C	C	C	8.3	7.2	7.2	7.2	6.6	C	C	5.6	4.4	4.3	4.1	3.9
22	3.4F	2.4	3.1	3.7F	3.2F	2.7	2.0	4.3	6.6	8.5	9.2	9.2	8.2	7.6	7.2	[7.1]C	[6.9]C	(6.8)	(6.4)	4.7	4.0	3.1	(3.0)	(2.8)
23	3.1	3.1	(2.9)	2.8	2.4	2.4	2.2	4.3	(6.0)	7.0	(8.0)	8.2	7.2	7.1	6.8	7.0	6.8	(7.2)	(7.2)	4.2	3.0F	2.7	2.9	2.9
24	3.0	3.1	3.2F	3.5F	3.6F	(1.9)F	1.5F	3.7	5.0	5.7	6.6F	7.1	7.0	(7.0)	6.4F	7.2	7.1	6.9	(6.4)	(5.0)	3.8	3.0	2.6	2.4F
25	(2.1)F	(2.8)F	(2.3)F	2.4F	(2.4)F	2.9F	2.2F	4.1	(5.3)	6.4	7.1	8.0	8.2	8.0	8.0	[6.8]C	6.2	5.7	5.1	4.6	3.4F	3.2F	3.2F	3.0F
26	2.7F	(2.5)F	2.9F	(2.8)F	(2.1)F	1.9F	2.0F	4.1F	(6.0)	7.0	6.6	8.4	8.4	7.0F	7.2	6.8	6.6	6.6	5.7	4.7	3.8F	3.1F	2.8F	3.2F
27	(3.2)F	(2.5)F	(2.2)F	(2.0)F	(2.4)F	2.7F	2.7	(4.4)	5.6	5.8	(7.0)	(7.9)	7.5	7.2	6.8	7.4	7.0	6.0	5.5	3.9	3.2J	(2.5)	2.5F	2.3F
28	2.5F	(2.8)F	(2.9)F	(2.5)F	(2.5)F	(3.1)F	(2.3)F	4.4	5.7	6.0	6.2	7.3	7.4	6.8	6.8	6.8	6.8	5.9	(5.6)	4.7	3.5F	2.8	2.4F	2.2F
29	(1.9)F	2.1F	2.4F	3.0F	3.4F	(2.8)	2.3F	4.8	6.0	6.5	7.4	8.6	(7.8)	7.4	7.3	7.4	7.3	6.8	5.4	4.0F	3.2F	2.6F	(2.6)	(2.0)
30	2.7F	(2.5)F	(2.5)F	3.0F	(3.0)F	3.4F	3.2F	5.0	5.7	6.8	7.0	7.9	8.2	7.4	7.2	[7.5]B	7.6	(6.5)	(4.8)	4.9	3.4	2.8	(2.7)F	2.6F
31	2.7F	2.4F	2.9F	3.1F	C	C	C	C	C	7.5	(8.2)	7.8	8.2	8.4	(8.2)	(8.2)	7.8	(6.6)	6.2	4.9	3.6	3.3	3.2F	3.2
Sum																								
Median	2.6	2.5	2.8	2.8	2.8	2.7	2.3	4.3	5.8	6.5	7.6	8.0	7.8	7.2	7.2	7.2	6.8	6.1	5.2	4.1	3.3	2.7	2.6	2.6

TABLE 77

IONOSPHERE DATA-4

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Hourly values of h'F1 in km for January (Month) 1946

Records measured by: J. M. C.
J. J. H.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1												250	240	[230]A										
2										210	180	190H	220	(200)	200H	210								
3										K	220K	210K	210NK	250K	270K	240K	250K							
4											230	200	220	240	220	230								
5											A	A	210	210	(220)	220	190							
6											230	240	200	230	230	200								
7											[210]A	(220)	230	210	200H	210								
8										210	230	220	220	220	200	180	220							
9												220	220	210	220	210	A							
10											200H	220	210	220	200	210								
11										210	210	210H	230	210H	240	220								
12										200	190	220	220	200	220	220								
13										C	220	230	220	210	190	220								
14											210	210	190	200	210H	240								
15											220	[220]F	200	200H	210	200								
16										210	210	190	220	190	210	230								
17										220	210	220	210	210	220	220								
18										220	200H	210	210	190	220	240	210							
19											220	210	210	210	220	230	240							
20											220	210	220	210	200	200	230							
21										C	C	C	C	230	210	220								
22											220	200	200	230	210	200	C							
23											230	220	230	200	220	210	220							
24										220	220	200	190	180H	200	220	230							
25										220	210	190H	200H	200H	200	210	220							
26										230	220	210	200	230	200	240								
27											220	240	220	220	220									
28										220	210	190	200	(220)	220	220								
29											210	200	220	220	210	230								
30										220	230	200	220	200H	230	B	B							
31											230	240	230	240	(230)	230	220							
Sum																								
Median										220	220	210	220	210	215	220	220							

TABLE 78

IONOSPHERE DATA-5

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Hourly values of f^oF_1 in Mc for January 1946
(Month)

Records measured by: J.M.C.
J.J.H.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1												L	(44)	L										
2										L	3.5	42^{H}	4.0	$[39]^{L}$	$(3.7)^{H}$	L								
3										K	36^{K}	3.6^{K}	3.7^{H}_{K}	37^{K}	37^{K}	3.5^{K}	$[3.0]^{L}_{K}$							
4											L	LH	L	L	3.8	L								
5											A	A	(4.2)	42	L	L	(3.3)							
6											$[3.7]^{L}$	$[40]^{L}$	42	42	(4.0)	3.5								
7											A	$[42]^{L}$	$[43]^{L}$	(41)	$(4.0)^{H}$	L								
8										3.0	$[3.7]^{L}$	4.3	43	(4.1)	$[3.8]^{L}$	L	L							
9												L	43	42	$[4.0]^{L}$	L	A							
10											LH	$[4.3]^{L}$	(4.0)	4.1	3.7	3.7								
11										L	L	(43)	43	(42)	4.0	L								
12										L	L	(42)	(4.2)	(42)	$[4.0]^{L}$	L								
13										C	L	(4.1)	42	(4.1)	(37)	L								
14											L	(40)	(41)	(4.1)	LH	L								
15											L	C	(42)	LH	40	L								
16										L	(40)	$[42]^{L}$	43	$[42]^{L}$	$[4.0]^{L}$	L								
17										L	L	(43)	$[4.4]^{L}$	4.2	$[4.1]^{L}$	L	L							
18										L	LH	L	(44)	L	L	L	L							
19											L	42	44	(40)	L	L	L							
20											L	(4.3)	$[4.4]^{L}$	L	L	L	L							
21										C	C	C	C	L	L	L								
22											L	L	L	L	$[4.1]^{L}$	(3.4)	C							
23										L	L	L	(4.3)	L	L	L								
24										L	44	(43)	(4.3)	$(4.3)^{H}$	L	L	L							
25										L	L	LH	$[4.3]^{L}_{H}$	4.3^{H}	(40)	L	L							
26										L	(40)	42	43	(4.2)	L	L								
27											L	L	4.5	44	(4.0)									
28										L	L	(4.2)	4.3	$[4.2]^{L}$	L	L								
29											(4.1)	$[4.2]^{L}$	(4.5)	(4.2)	L	L								
30										L	L	L	$[4.5]^{L}$	LH	L	B	B							
31											L	L	L	L	$[4.4]^{L}$	(4.0)	L							
Sum																								
Median											(38)	(42)	(43)	(42)	(40)	3.5								

TABLE 79

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

IONOSPHERE DATA-6

Hourly values of h'_E in km for January (Month) 1946

Records measured by: J. M. C.
J. J. H.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									(110)	120	120	120	120	120	120	120	120							
2									120	110	110	110	100	110	110	120	120	120						
3									110K	110K	100K	100K	110K	120K	120K	120K	120K	K						
4									120	120	110	120	120	120	120	120	130							
5									120	110	110	110	110	110	120	110	110	(140)						
6									100	110H	110	110	120	120	110	120	110	110						
7									110H	120	120	110	110	120	110	120	120H							
8									(110)H	110H	110H	120H	110	110	110	110H	120							
9									110	110H	110	120H	120H	110	110	110	110	110						
10									130	110H	110	110	100	100H	100	100H	90	90						
11									120	110H	110H	110H	110	110	110	120	120							
12									C	110	110	110	110	110	110	110	120							
13									[120]C	[110]C	110H	110H	110	110	110	100	100							
14									140	110H	110	110	110	110H	110	110	120	(140)						
15									(130)	110	110	[110]C	110	110	100	110H	110							
16									120	110	110	110H	110H	110	120	110	120H							
17									[110]C	110	110	110	110	110	110	120	120	110H						
18									130	110	(110)	110	110	100	110	110	110	110						
19									120	110	110	110	110	100	100	110	120	130H						
20									110H	110H	(120)	110	100	100	100	100	100	110						
21									110	C	C	C	C	110H	110	110	110	(120)H						
22									100	100	100	110	120	110	110	110	[100]C	100						
23									120	120	[120]B	[120]B	110	110	120	120	(100)	(140)						
24									110H	110	110	110	110	110	110	110	110H	100						
25									110H	110	110	110	110	110	130	120	120	(130)H						
26									120H	110	110	110	110	110	110	110	120	120H						
27									120	110	120	120	120	120	120	120	120	(140)						
28									120	120	110H	110	110	120	110	120	120	(110)H						
29									(130)H	120	110	110	110	110	110	110	120	110						
30									120	110	110H	110	120	110	[120]B	[130]B	[130]B	130						
31									C	C	110	110	110	120	120	110	110	(120)H						
Sum									120	110	110	110	110	110	110	110	120	120						
Median																								

TABLE 80

IONOSPHERE DATA-7

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

TIME: 75°W MERIDIAN

Hourly values of f^oE in Mc for January (Month) 1946

Records measured by: J.M.C. J.J.H.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									(1.8)	A	A	[3.0]A	A	A	A	(2.3)	A							
2									(1.9)	2.2	[2.5]A	(2.8)	2.9	2.8	2.6	(2.3)	2.0	A						
3									A K	(2.2)K	[2.5]AK	[2.1]AK	2.9K	2.7K	[2.6]AK	2.3K	[1.9]AK	K						
4									(2.1)	2.4	(2.5)	(2.8)	(2.9)	2.7	2.6	(2.2)	(2.2)							
5									A	A	A	A	A	(2.1)	(2.8)	(2.4)	1.9	(1.5)						
6									(1.7)	2.2H	(2.6)	(2.8)	(3.0)	[2.1]B	(2.8)	2.5	A	A						
7									1.6H	2.4	[2.8]A	[3.0]C	[2.9]A	(2.9)	2.6	(2.5)	(2.0)H							
8									(1.5)H	2.2H	(2.5)H	2.9H	(3.0)H	(2.9)	2.7	2.3H	(1.9)							
9									A	(2.4)H	2.6	2.9H	(3.0)H	[2.9]B	2.7	[2.5]A	[2.2]A	(1.5)						
10									1.9	2.2H	2.7	3.0	3.0	3.0H	2.8	2.3H	A	A						
11									1.8	2.2H	2.4H	2.9H	2.9	[2.9]A	(2.9)	2.5	(2.1)							
12									C	(2.2)	(2.6)	2.9	(3.0)	(3.0)	(2.9)	(2.6)	(2.2)							
13									[1.8]C	[2.3]C	2.7H	(3.0)H	B	A	A	2.7	2.2							
14									2.0	2.5H	2.8	(3.1)	(3.2)	(3.1)H	3.1	2.8	2.4	1.6						
15									(1.7)	2.4	2.9	[3.1]C	(3.2)	3.1	3.0	2.6H	2.3							
16									(1.8)	(2.4)	2.8	3.0H	3.1H	(3.0)	(2.8)	(2.7)	2.3	(1.5)H						
17									(2.0)	(2.4)	2.7	2.9	(3.1)	3.0	(2.9)	2.7	2.3	(1.5)H						
18									1.8	C	C	3.0	3.0	3.0	(2.9)	2.8	C	C						
19									(2.1)	[2.5]A	[2.8]A	[3.1]A	[3.1]A	(3.1)	[3.3]A	2.7	2.2	(1.5)H						
20									1.8H	(2.5)H	(2.9)	A	A	A	[3.2]A	A	A	A						
21									A	C	C	C	C	3.1H	3.0	2.7	2.3	(1.5)H						
22									A	A	2.9	(3.0)	3.2	(3.0)	(3.0)	2.7	[2.3]C	(1.7)						
23									2.0	(2.4)	[2.9]B	[3.0]B	(3.2)	(3.1)	(3.0)	2.7	(2.5)	1.7						
24									1.8H	(2.5)	2.7	3.0	3.1	3.0	[2.9]B	2.6	2.2H	1.7						
25									1.8H	(2.5)	[2.8]A	(3.0)	(3.1)	(2.9)	(2.9)	2.7	2.2	(1.6)H						
26									1.8H	(2.2)	A	A	3.1	(3.0)	2.9	(2.6)	(2.3)	(1.5)H						
27									1.9	(2.5)	2.8	(3.0)	(3.1)	A	A	2.9	(2.5)	1.9						
28									(2.0)	(2.3)	2.7H	3.1	(3.2)	[3.2]B	(3.0)	(2.7)	(2.4)	1.7H						
29									1.9H	(2.6)	[2.8]A	[3.0]A	(3.2)	(3.2)	(3.1)	(3.0)	A	A						
30									[1.9]C	(2.7)	3.0H	3.2	3.3	[3.2]B	[3.2]B	[3.1]B	[3.0]B	2.2						
31									C	C	(3.1)	C	C	[3.3]C	(3.1)	3.0	(2.5)	1.9H						
Sum																								
Median									1.8	(2.4)	2.8	(3.0)	(3.1)	(3.0)	(2.9)	2.6	(2.2)	(1.6)						

TABLE 81

IONOSPHERE DATA-8

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Hourly values of E_s in Mc/km for January 1946 (Month)

Records measured by: J.M.C. J.J.H.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.8 110	4.0 140			2.4 110	2.8 110	2.5 110	4.1 110	5.0 110	4.0 110	4.6 120	4.7 110	4.5 120	4.7 120	(3.2) 120	4.1 120	4.0 110	2.4 120	2.3 110	2.7 100	2.7 110	2.9 110	2.9 100	2.4 110
2	2.4 110	2.4 110	2.7 100	2.3 110	4.4 110	4.3 110	4.3 110	4.7 110	4.6 120	4.4 110	5.0 110	3.8 100	3.0 100	4.4 110	4.2 100	4.7 110	2.4 120	2.9 120	2.9 110	2.8 100	3.4 110	(3.3) 100	2.8 110	(3.9) 100
3	4.0 100	5.2 110	3.9 110	4.6 110	4.7 110	5.4 110	5.8 110	4.9 100	5.0 110	5.0 110	5.2 100	5.2 100	5.3 110	5.2 110	3.8 100	5.3 100	5.0 100H	4.0 120	(4.7) 110	2.3 120	2.3 100	2.4 110	2.4 100	2.9 110
4	2.4 110	2.9 110	4.8 110	4.1 110	4.1 110	4.7 110	4.8 110	4.8 110	4.8 120	4.8 120	2.9 120				2.5 140	4.0 120	2.7 110	4.6 110	2.4 110	2.3 110		2.3 110		
5	2.4 110	2.4 100	5.0 110	7.4 110	(8.5) 110	6.0 110	8.8 110	11.3 110	10.0 110	6.1 110	6.8 110	5.0 110	4.9 110	4.4 120	4.1 120	4.4 120	4.9 110							
6	2.3 90	2.7 110	3.8 110	4.0 110	3.8 110	6.4 120	4.3 110	7.4 120	2.4 100	2.4 110	4.8 120	4.5 120			2.7 110		5.0 110	3.8 110	4.0 110	2.2 110	2.4 100	2.4 100	3.3 100	2.9 100
7	2.3 110	2.7 100	2.3 100	0.8 100	3.6 100	2.3 110	2.4 110	3.9 110	3.9 110		5.3 120		5.4 110					2.3 100				4.5 110		
8			2.3 110	2.2 100	2.3 120	4.6 110	4.0 110	(3.6) 100	3.7 110	(3.8) 110	3.9 120					3.7 120	2.7 130	(4.0) 100						2.4 110
9	3.9 110	2.4 110	2.2 110	2.4 100		2.6 110	2.7 110	3.5 100	3.9 110	3.0 150	3.1 140			2.9 150	2.9 130	(3.8) 110	5.0 110	3.9 110			2.4 100	2.2 100		
10	5.0 100	(2.2) 100		2.1 100	(1.3) 110			(1.8) 120			3.7 100		3.9 100	3.8 110	3.8 100	3.7 100	4.3 90	3.8 90	(2.4) 100	2.3 100	2.3 100	2.4 100		
11									2.3 120	4.0 140		3.1 140	3.1 130	3.4 110			2.2 100							
12								4.5 110		2.7 140	3.9 120	3.1 130	3.1 140	3.8 130			2.3 110	2.7 100						
13					2.2 120			2.3 110			3.8 120	(4.8) 110	4.2 110	4.4 100	3.9 110	3.8 100	2.9 100	2.7 100	2.3 100	2.0 100	1.8 100			
14	(2.2) 100	(2.3) 100	(2.3) 100	3.9 110		2.7 90				4.2 110	3.7 140	5.1 120			3.7 120	2.9 150					(2.3) 100	3.7 110		
15							(2.3) 110	(2.3) 110	2.3 120	3.7 110	3.8 110	C	4.9 110			3.7 100	4.0 110				(2.2) 120			(3.9) 100
16						(2.7) 110		2.7 110	5.0 100	3.8 110	(3.5) 120						2.4 130	4.0 110			2.8 120	2.2 100	1.9 100	
17		2.3 100			(2.4) 120		(3.8) 110		2.3 120	5.0 120	3.8 110	3.4 130	3.2 140	3.8 100	3.1 140	2.9 130	2.4 120	2.9 110			1.8 110			
18									(2.3) 120		3.1 140	3.5 120	3.4 120	4.2 100	6.6 120	2.9 120					(2.7) 130			
19			4.0 100	1.2 140				2.3 100	4.0 110	5.2 110	5.1 120	4.2 110	4.8 110	5.2 100	4.0 100	3.9 120	2.7 100		2.8 130	2.3 120	2.2 110			
20	2.8 110	2.7 120					3.7 110	2.7 110	6.4H 100H	4.0 110		(4.4) 100	(6.6) 100	4.0 100	3.2 100	4.0 100	3.9H 100H	5.3 110	5.1 110	6.9 110	(5.2) 110H	(2.5) 110	2.7 110	2.2 100
21	2.7 110	2.9 110	2.4 110	2.3 110	(2.0) 120	2.2 110	3.8H 110H	3.7H 110H	5.0 110	C	C	C	(7.6) 110			(3.8) 110	2.3 90	C	C	C				
22	2.4 110	5.3 110	6.4 110		2.5 110	(3.4) 110	4.0 100	4.0 110	(4.3) 100	4.2 100	3.9 120	3.8 120				C	3.8 100	4.4 100	3.7 90	2.4 90	2.2 90			
23																	3.8 100				2.2 120	2.3 110	2.3 110	
24								2.4 120	2.4 90	3.8 110	3.9 100	(5.0) 100	3.9 120		3.8 100		2.4 140	(4.1) 100						
25									6.7 100	3.9 110	4.2 110	3.8 110												
26									4.0 120	6.5 90	6.8 110	4.2 110	5.2 110	5.1 110							1.7 110	2.4 100	(2.3) 110	3.6 110
27	(4.2) 110	2.8 110				2.5 100	2.7 100	2.6 110	2.3 120	2.9 120	2.9 120	4.9 140		(3.4) 120	3.0 120	2.9 120				2.3 120	2.4 120	2.2 120	1.9 120	2.3 120
28	2.5 110	2.4 120	2.5 120	2.5 110		2.5 120	2.4 120	2.4 120	(3.0) 120			3.8 110			(7.0) 110	3.8 120								
29									4.2 110		4.2 110	3.8 110				(3.8) 100	2.8 110	2.4 110						
30	3.4 110	4.3 110	2.9 110	2.5 110				2.4 120	3.0 120	2.9 150		3.8 110				B	B			(2.3) 120		(2.4) 110	(2.2) 110	
31					C	C	C	C	C	C	4.8 120						2.8 140	3.7 130						
Sum																								
Median	2.2	2.3	* *	* *	* *	2.0	2.4	2.5	3.8	3.8	3.8	3.8	3.1	* *	2.7	3.7	2.7	2.6	* *	* *	1.8	* *	* *	

* * Median fE_s less than median f^{o}_{E}, or less than lower frequency limit of recorder.

TABLE 82

IONOSPHERE DATA - 9

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Hourly values of F2-M1500 for January (Month) 1946

Records measured by: J.M.C.
J.J.H.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(2.0)	(1.9)	1.9	(2.0)F	(2.1)F	(2.2)F	(2.4)F	(2.2)F	2.5	2.5	2.4	2.2	2.3	2.4	2.4	2.2	2.3	(2.4)	(2.7)	(2.3)F	2.2F	(2.1)F	(2.1)F	(2.0)
2	1.9	2.3F	2.2F	(2.2)F	(2.3)F	(2.0)F	(2.0)F	2.2F	(2.6)	2.5	2.3	2.7	2.3	2.3	2.3	2.4	2.6	2.6	2.1	2.4	2.2F	2.2F	2.2	(2.0)F
3	2.2	2.2F	2.2F	(2.2)K	(2.3)FK	(2.1)FK	(1.9)FK	(1.8)FK	(2.0)FK	JK	(1.9)FK	(1.4)K	1.5K	1.4K	(1.7)FK	2.2K	(1.7)FK	(1.8)K	1.8K	(1.8)K	(1.7)FK	(1.7)FK	(1.9)FK	(1.8)FK
4	(1.6)FK	(1.6)FK	(1.8)FK	(1.7)FK	(1.6)FK	(1.8)FK	AK	(2.2)F	2.4	(2.4)	(2.5)	2.3	2.3	2.3	2.2	2.2	2.3	(2.3)	(2.1)	(2.2)	(2.1)	(2.1)	(2.1)F	(2.1)
5	(1.9)F	(2.0)F	A	A	A	A	A	A	(2.4)	(2.6)	2.3	2.3	(2.2)	(2.4)	2.4	2.5	(2.4)	(2.4)	2.3	2.2	2.3	(2.1)	2.0	2.2
6	(2.3)F	(2.0)F	(2.1)F	(2.2)F	(2.1)F	(2.2)F	(2.3)F	(2.3)F	(2.6)	2.7	(2.4)	(2.5)	(2.3)	(2.4)	(2.4)	(2.3)	2.3	2.4	2.4	2.2	(2.3)	2.1	2.0	(2.0)
7	(2.3)F	2.3F	2.1F	2.1F	2.2F	2.3F	(2.3)F	(2.2)F	2.6	(2.6)	2.4	(2.2)	2.3	(2.4)	(2.4)	2.3	2.3	2.5	2.5	(2.5)F	2.2F	(2.0)F	(2.0)F	2.2F
8	2.2F	(2.0)F	(2.2)F	(2.2)F	2.1F	2.1	2.3	2.3F	2.5	2.6	2.5	2.4	2.5	(2.7)	(2.7)	(2.2)	2.4	2.6	2.2	2.4	(2.4)	(2.1)F	(2.0)F	2.1F
9	(2.1)F	(2.1)F	(2.2)F	(2.2)F	(2.2)F	2.3F	2.2F	2.3	2.7	2.6	2.5	2.4	2.3	(2.5)	2.3	2.3	2.4	2.3	2.2	(2.3)	2.4	2.0F	(2.1)	2.0F
10	(2.1)F	(2.2)F	2.1F	(2.1)F	2.1F	2.3F	2.3	2.1	2.4	2.6	2.2	2.3	2.4	2.4	(2.0)H	2.3	2.3	2.3	2.2	2.2	2.1	(2.0)	2.0	2.0
11	2.0	(2.0)F	(2.1)F	(2.3)F	(2.3)F	(2.4)F	2.3F	(2.1)F	2.4	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.2	2.4	2.3	2.3	(2.2)	2.2	2.0	2.0
12	(2.2)F	2.1F	(1.9)F	(2.0)F	(2.3)F	(2.3)F	(2.2)F	(2.3)F	(2.8)	(2.6)	(2.2)	2.3	2.4	(2.3)	(2.2)	(2.2)	2.4	(2.5)	2.5	(2.3)F	(2.1)F	(2.0)F	(2.0)F	(2.0)F
13	(2.0)F	(2.1)F	(2.1)F	(2.1)F	(2.1)F	(2.3)F	(2.3)F	(2.1)F	(2.7)	(2.6)	(2.1)	(2.5)	2.5	(2.5)	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	(2.1)F	(2.2)F
14	(2.1)F	(2.1)F	(2.1)F	(2.3)F	C	C	2.2	2.2	2.5	2.5	2.2	(2.2)	(2.5)	2.4	2.3	2.3	2.3	(2.4)	2.3	2.3	2.2	2.1	2.1	2.0
15	2.0	(2.0)F	C	(2.1)F	(2.3)F	(2.0)F	(2.2)F	(2.3)F	(2.6)	2.4F	(2.3)	C	(2.5)	(2.5)	2.3	2.3	2.3	2.3	2.1	2.2	2.2	2.3	2.2	2.2
16	3.0	2.0F	2.0F	1.9F	2.0F	2.0F	2.1F	2.1	(2.4)	2.5	2.3	2.4	2.4	(2.5)	C	(2.3)	2.3	2.2	2.1	(2.2)	2.2	2.2	2.0	2.2
17	(1.9)	(1.9)F	2.1F	2.1F	(1.9)	(1.9)	(2.1)F	(2.1)F	(2.4)	2.2	2.2	2.4	2.3	2.1	2.2	2.3	2.3	(2.2)	(2.4)	2.4	(2.0)	2.2	2.1F	2.0F
18	2.1F	(2.0)F	2.0F	(2.1)F	(2.1)F	(2.1)F	(2.1)F	(2.3)F	2.4	C	C	2.3	2.4	2.2	2.3	2.2	2.3	2.3	2.1	(2.2)	2.3	(2.1)F	2.0	2.0F
19	2.0	2.1	2.1	2.1	2.0	2.2	(2.1)F	2.2F	(2.5)	(2.1)F	2.2F	(2.4)	2.4	2.4	2.3	2.2	2.2	2.3	(2.3)	2.3	2.2	2.1	2.0	1.9F
20	(1.9)F	2.0F	(2.2)F	2.2F	2.2F	(2.2)F	(2.1)	2.2F	2.5	2.6	(2.3)	2.3	2.5	2.4	C	2.3	(2.4)	2.5	(2.2)	2.3	2.4	2.1	2.0	2.1
21	2.0F	2.0F	2.1F	2.1F	2.0F	2.0	2.0	2.1	(2.6)	C	C	C	C	2.4	2.3	2.2	2.3	2.4	C	C	2.3	2.0	2.0	2.1
22	2.1	1.9	A	2.0F	(2.0)F	(2.5)	(2.4)F	(2.0)	2.5	2.3	2.2	2.4	2.4	(2.3)	2.4	2.2	C	(2.4)	(2.3)	(2.4)	2.2	2.2	(2.0)	2.0
23	(1.9)	(2.0)	(2.0)	(2.0)	2.1	2.0	(1.9)	(1.9)	(2.3)	2.4	2.2	(2.4)	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.4	(2.3)F	(2.1)	1.9	1.9
24	2.4	1.9	1.9F	(2.1)F	(2.3)F	(2.4)F	J	(2.2)F	2.5	(2.1)	2.1	(2.1)F	2.3	2.3	2.3	2.2	2.2	2.2	(2.1)	(2.2)	2.1	2.0	2.1	(2.2)
25	(2.1)F	(2.1)F	(2.1)F	(2.1)F	(2.3)F	(2.2)F	(2.4)F	(2.1)F	(2.7)F	(2.4)	2.3	2.1	2.2	2.3	2.2	(2.3)	2.3F	(2.7)	2.2	2.2	2.2F	2.0	2.0F	2.1F
26	2.1F	(2.1)F	(2.0)F	(2.0)F	(2.1)F	2.2F	(2.0)F	(2.2)F	2.4	2.4	2.5	2.2	2.3	2.3	2.1	(2.3)	2.2	2.3	2.3	2.3	2.3	2.1F	2.0	1.9F
27	2.0F	(2.2)F	(2.1)F	(2.2)F	(2.3)F	2.1	2.2	(2.3)	2.7	2.2	2.2	2.1	(2.4)	2.4	(2.3)	2.1	2.3	2.3	2.2	2.2	(2.2)	(2.1)	(2.0)F	2.0
28	1.8F	(2.0)F	(2.1)F	(2.0)F	(2.2)F	(2.2)	(2.3)F	(2.1)	2.5	2.4	2.4	2.3	(2.3)	2.4	2.3	2.3	2.2	2.3	(2.3)	(2.4)	(2.3)F	2.2F	(2.1)	2.2F
29	2.0F	(1.9)F	(2.0)F	(1.9)F	2.0F	2.4F	2.2F	2.1F	(2.5)	2.5	2.3	2.3	2.3	2.4	2.3	(2.2)	2.3	2.3	2.3	2.4	2.2F	2.0F	(2.1)	(2.0)
30	(2.0)F	(1.9)F	(2.2)F	(2.1)F	(2.0)F	2.1F	(2.2)F	2.3F	(2.7)	2.4	2.4	2.3	2.1	2.2	2.3	B	2.2	(2.2)	2.3	(2.3)	2.4	2.0F	(1.9)	(2.0)F
31	(2.0)F	(2.0)F	2.0F	2.0F	C	C	C	C	C	C	2.4	2.4	2.1	(2.1)	(2.1)	(2.1)	2.1	(2.2)	(2.3)	2.4	2.2	2.1	2.1	2.1
Sum																								
Median	(2.0)	(2.0)	(2.1)	(2.1)	(2.1)	(2.2)	(2.2)	(2.2)	2.5	2.5	2.3	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	2.0

TABLE 83

IONOSPHERE DATA-10

Washington, D. C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Hourly values of F2-M3000 for January (Month) 1946

Records measured by: J.M.C. J.J.H.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(3.0)	(2.9)	2.9	(3.0)^{F}	(3.1)^{F}	(3.2)^{F}	(3.4)^{F}	(3.2)^{F}	3.5	3.5	3.4	3.2	3.3	3.4	3.4	3.2	3.3	(3.4)	(3.7)	(3.3)^{F}	3.2^{F}	(3.1)^{F}	(3.1)^{F}	(3.0)
2	2.9	3.3^{F}	3.2^{F}	(3.2)^{F}	(3.3)^{F}	(3.0)^{F}	(3.0)^{F}	3.2^{F}	(3.6)	3.5	3.3	3.7	3.3	3.3	3.3	3.4	3.6	3.6	3.1	3.4	3.2^{F}	3.2^{F}	3.2	(3.0)^{F}
3	3.2	3.2^{F}	3.2^{F}	(3.2)$^{F}_{K}$	(3.2)$^{F}_{K}$	(3.1)$^{F}_{K}$	(2.9)$^{F}_{K}$	(2.7)$^{F}_{K}$	(2.9)$^{F}_{K}$	J^{K}	(2.8)$^{F}_{K}$	(2.0)^{K}	2.3^{K}	2.1^{K}	(2.6)$^{F}_{K}$	3.2^{K}	(2.6)$^{F}_{K}$	(2.8)^{K}	2.8^{K}	(2.8)^{K}	(2.5)$^{F}_{K}$	(2.6)$^{F}_{K}$	(2.9)$^{F}_{K}$	(2.8)$^{F}_{K}$
4	(2.5)$^{F}_{K}$	(2.4)$^{F}_{K}$	(2.8)$^{F}_{K}$	(2.7)$^{F}_{K}$	(2.6)$^{F}_{K}$	(2.7)$^{F}_{K}$	A^{K}	(3.2)^{F}	3.4	(3.4)	(3.6)	3.3	3.3	3.3	3.2	3.2	3.3	(3.3)	(3.1)	(3.2)	(3.1)	(3.1)	(3.1)^{F}	(3.1)
5	(2.8)^{F}	(2.9)^{F}	A	A	A	A	A	A	(3.4)	(3.6)	3.3	3.3	(3.2)	(3.4)	3.4	3.5	(3.5)	(3.4)	3.3	3.2	3.3	(3.1)	3.0	3.2
6	(3.3)^{F}	(3.0)^{F}	(3.1)^{F}	(3.2)^{F}	(3.1)^{F}	(3.2)^{F}	(3.3)^{F}	(3.3)^{F}	(3.6)	3.7	(3.4)	(3.5)	(3.3)	(3.4)	(3.4)	(3.3)	3.3	3.4	3.4	3.2	(3.3)	3.1	3.0	(3.0)
7	(3.3)^{F}	3.3^{F}	3.1^{F}	3.1^{F}	3.2^{F}	3.3^{F}	(3.3)^{F}	(3.2)^{F}	3.6	(3.6)	3.4	(3.2)	3.3	(3.4)	(3.4)	3.3	3.4	3.5	3.6	(3.5)^{F}	3.2^{F}	(3.0)^{F}	(3.0)^{F}	3.2^{F}
8	3.2^{F}	(3.0)^{F}	(3.2)^{F}	(3.2)^{F}	3.1^{F}	3.1	3.3	3.3^{F}	3.5	3.6	3.5	3.4	3.5	(3.7)	(3.7)	(3.2)	3.4	3.6	3.2	3.4	(3.4)	(3.1)^{F}	(3.0)^{F}	3.1^{F}
9	(3.1)^{F}	(3.1)^{F}	(3.2)^{F}	(3.2)^{F}	(3.2)^{F}	3.3^{F}	3.2^{F}	3.3	3.7	3.6	3.5	3.4	3.3	(3.5)	3.3	3.3	3.4	3.3	3.2	(3.3)	3.4	3.0^{F}	(3.1)	3.0^{F}
10	(3.1)^{F}	(3.2)^{F}	3.1^{F}	(3.1)^{F}	3.1^{F}	3.3^{F}	3.3	3.1	3.4	3.6	3.2	3.3	3.4	3.4	(3.0)^{H}	3.3	3.3	3.3	3.2	3.2	3.1	(3.0)	3.0	2.9
11	3.0	(3.0)^{F}	(3.1)^{F}	(3.3)^{F}	(3.3)^{F}	(3.4)^{F}	3.3^{F}	(3.1)^{F}	3.4	3.5	3.5	3.4	3.4	3.4	3.4	3.4	3.2	3.4	3.3	3.3	(3.2)	3.2	3.0	3.0
12	(3.2)^{F}	3.1^{F}	(2.9)^{F}	(3.0)^{F}	(3.3)^{F}	(3.3)^{F}	(3.2)^{F}	(3.3)^{F}	(3.9)	(3.6)	(3.2)	3.4	3.5	(3.3)	(3.2)	(3.2)	3.4	(3.6)	3.5	(3.3)^{F}	(3.1)^{F}	(3.0)^{F}	(3.0)^{F}	(3.0)^{F}
13	(2.9)^{F}	(3.1)^{F}	(3.1)^{F}	(3.1)^{F}	(3.1)^{F}	(3.3)^{F}	(3.3)^{F}	(3.1)^{F}	(3.7)	(3.6)	(3.1)	(3.5)	3.5	(3.5)	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.1	(3.1)^{F}	(3.2)^{F}
14	(3.1)^{F}	(3.0)^{F}	(3.1)^{F}	(3.3)^{F}	C	C	3.2	3.2	3.5	3.5	3.2	(3.2)	(3.5)	3.4	3.3	3.3	3.3	(3.4)	3.3	3.3	3.2	3.1	3.1	3.0
15	3.0	(2.9)^{F}	C	(3.1)^{F}	(3.3)^{F}	(3.0)^{F}	(3.2)^{F}	(3.3)^{F}	(3.6)	3.4^{F}	(3.3)	C	(3.5)	(3.5)	3.3	3.3	3.3	3.3	3.1	3.2	3.2	3.3	3.2	3.2
16	3.0	3.0^{F}	3.0^{F}	2.9^{F}	3.0^{F}	3.0^{F}	3.1^{F}	3.1	(3.4)	3.5	3.3	3.4	3.4	(3.5)	C	(3.3)	3.3	3.2	3.1	(3.2)	3.2	3.2	3.0	3.2
17	(2.9)	(2.9)^{F}	3.1^{F}	3.1^{F}	(2.9)	(2.9)	(3.1)^{F}	(3.1)^{F}	(3.5)	3.2	3.2	3.4	3.3	3.2	3.2	3.3	3.3	(3.2)	(3.4)	3.4	(3.0)	3.2	3.1^{F}	3.0^{F}
18	3.1^{F}	(3.0)^{F}	3.0^{F}	(3.0)^{F}	(3.1)^{F}	(3.1)^{F}	(3.1)^{F}	(3.3)^{F}	3.4	C	C	3.3	3.4	3.2	3.3	3.2	3.3	3.3	3.1	(3.2)	3.3	(3.1)^{F}	3.0	3.0^{F}
19	3.0	3.1	3.1	3.1	3.0	3.2	(3.1)^{F}	3.2^{F}	(3.5)	(3.1)^{F}	3.2^{F}	(3.4)	3.4	3.4	3.3	3.2	3.2	3.3	(3.3)	3.3	3.2	3.1	3.0	2.9^{F}
20	(2.9)^{F}	3.0^{F}	(3.2)^{F}	3.2^{F}	3.2^{F}	(3.2)^{F}	(3.1)	3.2^{F}	3.5	3.6	(3.3)	3.3	3.5	3.4	C	3.3	(3.4)	3.5	(3.2)	3.3	3.4	3.1	3.0	3.1
21	3.0^{F}	3.0^{F}	3.1^{F}	3.1^{F}	3.0^{F}	3.0	3.0	3.1	(3.6)	C	C	C	C	3.4	3.3	3.2	3.3	3.4	C	C	3.3	3.0	3.0	3.1
22	3.1	2.9	A	3.0^{F}	(3.0)^{F}	(3.6)	(3.4)^{F}	(3.0)	3.5	3.3	3.2	3.4	3.4	(3.3)	3.4	3.2	C	(3.4)	(3.3)	(3.4)	3.2	3.2	(3.0)	3.0
23	(2.9)	(3.0)	(3.0)	(3.0)	3.1	3.0	(2.8)	(2.9)	(3.3)	3.4	3.2	(3.4)	3.3	3.2	3.2	3.2	3.2	3.2	3.1	3.4	(3.3)^{F}	(3.1)	2.8	2.8
24	3.4	2.8	2.9^{F}	(3.1)^{F}	(3.3)^{F}	(3.5)^{F}	J	(3.2)^{F}	3.5	(3.1)	3.1	(3.1)^{F}	3.3	3.3	3.3	3.2	3.2	3.2	(3.1)	(3.2)	3.1	3.0	3.1	(3.2)
25	(3.1)^{F}	(3.1)^{F}	(3.1)^{F}	(3.1)^{F}	(3.3)^{F}	(3.2)^{F}	(3.4)^{F}	(3.1)^{F}	(3.7)^{F}	(3.4)	3.3	3.1	3.2	3.3	3.2	(3.3)	3.3^{F}	(3.4)	3.2	3.2	3.2^{F}	3.0	3.0^{F}	3.1^{F}
26	3.1^{F}	(3.1)^{F}	(3.0)^{F}	(3.0)^{F}	(3.1)^{F}	3.2^{F}	(3.0)^{F}	(3.2)^{F}	3.4	3.4	3.5	3.2	3.3	3.3	3.1	(3.3)	3.2	3.3	3.3	3.3	3.3	3.1^{F}	3.0	2.9^{F}
27	3.0^{F}	(3.2)^{F}	(3.1)^{F}	(3.2)^{F}	(3.3)^{F}	3.1	3.2	(3.3)	3.7	3.2	3.2	3.1	(3.4)	3.4	(3.3)	3.1	3.3	3.3	3.2	3.2	(3.2)	(3.0)	(3.0)^{F}	2.9
28	2.8^{F}	(3.0)^{F}	(3.1)^{F}	(3.0)^{F}	(3.2)^{F}	(3.2)	(3.3)^{F}	(3.1)	3.5	3.4	3.4	3.3	(3.3)	3.4	3.3	3.3	3.2	3.3	(3.3)	(3.4)	(3.3)^{F}	3.2^{F}	(3.1)	3.2^{F}
29	3.0^{F}	(2.9)^{F}	(3.0)^{F}	(2.8)^{F}	3.0^{F}	3.4^{F}	3.2^{F}	3.1^{F}	(3.5)	3.5	3.3	3.3	3.3	3.4	3.3	(3.2)	3.3	3.3	3.3	3.4	3.2^{F}	3.0^{F}	(3.1)	(3.0)
30	(3.0)^{F}	(2.9)^{F}	(3.2)^{F}	(3.1)^{F}	(3.0)^{F}	3.1^{F}	(3.2)^{F}	3.4^{F}	(3.7)	3.4	3.4	3.3	3.1	3.2	3.3	B	3.2	(3.2)	3.3	(3.3)	3.4	3.0^{F}	(2.9)	(3.0)^{F}
31	(3.0)^{F}	(3.0)^{F}	3.0^{F}	(3.0)^{F}	C	C	C	C	C	C	3.4	3.4	3.1	(3.1)	(3.1)	(3.1)	3.1	(3.2)	(3.3)	3.4	3.2	3.1	3.1	3.1
Sum																								
Median	(3.0)	(3.0)	(3.1)	(3.1)	(3.1)	(3.2)	(3.2)	(3.2)	3.5	3.5	3.3	3.3	3.3	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.1	3.0	3.0

TABLE 84

IONOSPHERE DATA-II

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Hourly values of F1-M3000 for January (Month) 1946

Records measured by: J. M. C.
J. J. H.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1												L	(3.4)	LA										
2										L	(4.1)	(4.0)^{H}	4.0	L	(4.0)	L								
3										K	3.6^{K}	(3.7)^{K}	(3.6)$^{H}_{K}$	3.3^{K}	3.1^{K}	3.4^{K}	L^{K}							
4											L	L	L	L	3.9	L								
5											A	A	(3.9)	(3.8)	L	L	(4.2)							
6											L	L	3.9	3.7	(3.7)	(3.8)								
7											A	L	L	(3.8)	L	L								
8										4.1	L	3.7	3.8	L	L	L	L							
9												L	3.8	(3.8)	L	L	A							
10											L	L	3.9	3.9	(3.9)	(3.8)								
11										L	L	LH	3.7	(3.7)	(3.7)	L								
12										L	L	(3.7)	(3.8)	(4.0)	L	L								
13										C	L	(3.8)	(3.9)	(3.9)	(3.8)	L								
14											L	(4.0)	(3.9)	(3.8)	L	L								
15											L	C	(4.0)	L	3.9	L								
16										L	(3.9)	L	(3.8)	L	L	L								
17										L	L	(3.8)	L	4.0	L	L	L							
18										L	L	L	3.8	L	L	L	L							
19											L	3.8	3.8	3.9	L	L	L							
20											L	(3.8)	L	L	L	L	L							
21										C	C	C	C	L	L	L								
22											L	L	L	L	L	4.1	C							
23										L	L	L	(3.8)	L	L	L								
24										L	3.7	(3.6)	(3.7)	(3.8)^{H}	L	L	L							
25										L	L	L	L	(3.7)^{H}	(4.0)	L	L							
26										L	(3.8)	3.9	(3.7)	(3.8)	L	L								
27											L	L	3.5	3.6	(3.9)									
28										L	L	(4.0)	3.8	L	L	L								
29											(3.8)	L	(3.8)	(3.8)	L	L								
30										L	L	L	L	L	L	B	B							
31											L	L	L	L	L	(3.8)	L							
Sum																								
Median											(3.8)	(3.8)	(3.8)	(3.8)	(3.9)	(3.8)								

TABLE 85

IONOSPHERE DATA-12

Washington, D.C. Ionosphere Station
(Location)

National Bureau Of Standards
(Institution)

Hourly values of E-M1500 for January (Month) 1946

Records measured by: J.M.C. J.J.H.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									(4.0)	A	A	A	A	A	A	(4.0)	A							
2									(3.7)	(4.5)	A	4.3	(4.2)	(4.3)	(4.2)	(4.3)	(3.9)	A						
3									A^{K}	A^{K}	A^{K}	A^{K}	4.0^{K}	4.3^{K}	A^{K}	4.2^{K}	A^{K}	^{K}						
4									(4.1)	(4.1)	(4.3)	(3.9)	(4.0)	4.3	(4.3)	(4.1)	(3.8)							
5									A	A	A	A	A	(4.0)	(4.1)	(4.0)	4.0	(3.4)						
6									(3.9)	(4.1)^{H}	(4.1)	(3.9)	(4.0)	B	(4.0)	4.0	A	A						
7									(4.4)^{H}	(4.0)	A	C	A	(4.1)	4.2	(4.0)	(4.0)							
8									4.0	(4.1)^{H}	(4.3)^{H}	(4.4)^{H}	(4.1)	(4.2)	4.2	(4.3)^{H}	A							
9									A	(4.0)^{H}	4.0	(4.1)^{H}	(4.2)^{H}	B	4.2	A	A	A						
10									3.6	(4.2)^{H}	[illegible]	4.2	4.2	(4.4)^{H}	(4.1)	(4.3)^{H}	A	A						
11									3.9	(4.4)^{H}	(4.2)^{H}	(4.3)^{H}	4.1	A	(4.1)	4.3	(4.1)							
12									C	(4.1)	(4.1)	4.2	(4.2)	(4.2)	(4.2)	(4.3)	(4.2)							
13									C	C	C	A	B	A	A	(4.0)	(4.2)							
14									4.0	(3.8)^{H}	(4.3)	(4.2)	(4.3)	(4.1)^{H}	4.0	4.1	4.2	3.8						
15									(4.1)	A	(4.5)	C	(4.1)	4.0	4.2	(4.3)^{H}	4.1							
16									A	(4.0)	(4.4)	(4.3)^{H}	(4.2)^{H}	(4.3)	(4.1)	(4.0)	4.2	A						
17									C	(4.3)	4.0	4.2	(4.0)	(4.0)	(4.2)	4.2	(4.4)	A						
18									4.1	C	C	4.0	4.2	4.3	4.0	4.1	C	C						
19									(3.8)	A	A	A	A	(4.5)	A	4.2	4.2	(4.0)^{H}						
20									(4.1)^{H}	(4.4)^{H}	(4.2)	A	A	A	A	A	A	A						
21									A	C	C	C	C	(4.1)^{H}	4.3	4.1	4.0	(4.2)^{H}						
22									A	A	4.2	4.2	(4.0)	(4.2)	(4.3)	4.3	C	(3.7)						
23									3.9	(4.1)	B	B	(4.1)	(4.2)	(4.2)	4.2	(4.2)	3.7						
24									(4.3)^{H}	(4.3)	4.3	4.2	4.2	4.3	B	4.2	(4.3)^{H}	(3.7)						
25									(4.1)^{H}	(4.1)	[illegible]	(3.3)	(4.2)	(4.3)	(4.1)	4.1	4.1	(4.2)^{H}						
26									(4.0)^{H}	[illegible]	A	A	4.3	(4.2)	4.0	(4.2)	(4.0)	(4.0)^{H}						
27									(3.8)	[illegible]	(4.3)	(3.9)	(4.1)	A	A	(4.0)	(3.9)	3.8						
28									A	(4.0)	(4.3)^{H}	(4.1)	(4.1)	B	(4.2)	4.4	(4.4)	(4.1)^{H}						
29									(4.3)^{H}	(4.2)	A	A	(4.2)	(4.2)	(4.2)	(4.2)	A	A						
30									C	[illegible]	(4.4)^{H}	4.3	4.3	B	B	B	B	4.0						
31									C	C	(4.0)	C	C	C	(4.2)	(4.1)	(4.1)	(4.4)^{H}						
Sum																								
Median									(4.0)	(4.1)	(4.3)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.1)	(4.0)						

Table 86

Ionospheric Storminess, January 1946

Day	Ionospheric Character* 00-12 GCT	Ionospheric Character* 12-24 GCT	Principal Storms Beginning GCT	Principal Storms End GCT	Geomagnetic Character** 00-12 GCT	Geomagnetic Character** 12-24 GCT
January						
1	3	1			2	2
2	2	2			2	2
3	1	7	0800	———	3	6
4	5	2	———	1200	5	3
5	3	2			2	2
6	2	1			2	2
7	2	2			1	2
8	2	2			2	1
9	2	2			1	1
10	1	1			1	2
11	2	1			4	2
12	2	2			2	2
13	3	1			0	1
14	2	2			1	1
15	1	1			1	1
16	1	1			2	1
17	1	0			3	2
18	1	0			1	2
19	2	1			2	1
20	1	1			1	0
21	1	2			0	1
22	1	1			3	1
23	2	1			3	2
24	2	3			3	3
25	2	2			2	2
26	1	2			3	2
27	1	2			2	1
28	2	2			1	1
29	3	1			2	2
30	2	1			2	1
31	1	2			1	2

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D.C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of American magnetic K figure, determined by a number of observatories, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

Table 87

Sudden Ionosphere Disturbances Observed at Washington, D.C.

Day	GCT Beginning	GCT End	Locations of transmitters	Relative intensity at minimum*	Other phenomena
January 14	1912	1935	Ohio, D.C., Mexico, Chile	0.3	Terr. mag. pulse** 1911-1920
28	1718	1900	Ohio, D.C., Mexico, Chile, Surinam, Gold Coast, Hawaii	0.05	
29	1905	2005	Ohio, D.C., New York, Mexico, Chile, Surinam, Gold Coast, Hawaii	0.02	Terr. mag. pulse** 1915-1925
29	2053	2210	Ohio, D.C., New York, Mexico, Chile, Surinam, Gold Coast, Hawaii	0.05	Terr. mag. pulse** 2100-2110
30	1812	1845	Ohio, D.C., Mexico, Chile, Surinam, Hawaii	0.2	
30	1900	2145	Ohio, D.C., New York, England, Mexico, Chile, Surinam, Gold Coast, Hawaii	0.0	Terr. mag. pulse** 1908-2110
31	1238	1340	England	0.0	

*Ratio of received field intensity during SID to average field intensity before and after, for station W8XAL, 6080 kilocycles, 600 kilometers distant, for all SID except the last, which is for station GLH, 13525 kilocycles, 5340 kilometers distant.

**As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

Table 28

Provisional Radio Propagation Quality Figures
North Atlantic
Compared with IRPL and ISIB Warnings and IRPL A-Zone Forecasts

Day	November 1945 Quality Figure 01-12 GCT	Quality Figure 13-24 GCT	IRPL Warning 01-12 GCT	IRPL Warning 13-24 GCT	ISIB Warning 01-12 GCT	ISIB Warning 13-24 GCT	A-Zone Fore-cast	Geo-mag-netic K_A 01-12 GCT	Geo-mag-netic K_A 13-24 GCT	December 1945 Quality Figure 01-12 GCT	Quality Figure 13-24 GCT	IRPL Warning 01-12 GCT	IRPL Warning 13-24 GCT	ISIB Warning 01-12 GCT	ISIB Warning 13-24 GCT	A-Zone Fore-cast	Geo-mag-netic K_A 01-12 GCT	Geo-mag-netic K_A 13-24 GCT
1	6	6					5	1	0	5	6					7	0	0
2	6	6					5	0	1	6	6					6	1	1
3	6	6					5	1	0	6	7					6	0	0
4	6	7					6	0	2	6	7					5	0	0
5	6	6					6	2	1	6	6					5	1	2
6	6	7					6	0	0	5	6			X	X	5	2	3
7	6	6					6	0	1	5	6			X	X	5	2	1
8	6	7					5	0	2	5	6					5	3	2
9	(3)	(4)	X	X		X	5	4	3	(4)	6	X	X	X	X	5	2	2
10	(3)	(4)	X	X	X	X	5	3	1	5	6			X	X	6	2	1
11	(3)	(4)	X	X	X	X	6	3	2	5	6	X	X			6	1	0
12	(4)	(4)	X	X			5	3	2	5	6					5	0	1
13	(3)	(4)	X	X			6	2	2	5	5					(4)	0	4
14	(4)	(4)	X	X	X	X	6	2	1	(2)	(3)	X	X	X	X	5	6	3
15	5	6	X	X			5	2	2	(4)	(4)	X	X	X	X	6	2	2
16	5	5					6	2	2	5	5	X	X			6	1	2
17	(4)	5			X	X	6	2	1	5	(4)	X	X			(4)	3	2
18	6	6					5	1	1	5	5	X	X	X	X	5	1	1
19	5	6					5	1	1	5	5	X	X			5	1	3
20	5	6					(4)	1	0	5	(4)			X	X	5	4	3
21	5	6			X		(4)	0	1	(4)	5	X	X	X	X	5	4	1
22	6	6					(4)	1	1	5	5	X	X			5	0	0
23	6	6					5	1	1	5	5					(4)	0	3
24	6	6					5	1	0	5	5			X	X	(4)	3	2
25	6	6					6	0	1	(4)	5					5	2	4
26	6	7					6	0	1	(3)	(4)	*		X	X	5	4	3
27	6	7					6	1	1	(4)	(4)	X	X	X	X	6	3	3
28	6	6					6	1	1	(4)	(4)	X	X	X	X	6	3	3
29	5	5					6	2	2	(4)	(4)	X	X	X	X	5	3	2
30	5	6					7	1	0	(4)	(4)	X	X	X	X	5	2	1
31										(4)	5	X	X			(4)	2	2
Score:																		
H			6		5		0					9		9		2		
M			1		2		7					2		3		10		
G			22		22		20					13		13		16		
(G)			1		1		2					5		5		3		
S			0		0		1					1		1		0		

*No report issued on 25 December 1945 for 26 December 1945.

Quality Figure and Forecast Scale:
1 = Useless
2 = Very poor
3 = Poor
4 = Poor to fair
5 = Fair
6 = Fair to good
7 = Good
8 = Very good
9 = Excellent

Symbols
X = Warning given.
H = Quality 4 or worse on day or half-day of warning.
M = Quality 4 or worse on day or half-day of no warning.
G = Quality 5 or better on day of no warning.
(G)= Quality 5 on day of warning.
S = Quality 6 or better on day of warning.
( )= Quality or forecast 4 or worse (disturbed).

Geomagnetic K_A on the standard scale of 0 to 9, 9 representing the greatest disturbance.

Table 89

Provisional Radio Propagation Quality Figures
North Pacific
Compared with IRPL Warnings and A-Zone Forecasts

Day	Quality Figure 01-12 GCT	Quality Figure 13-24 GCT	IRPL Warning 01-12 GCT	IRPL Warning 13-24 GCT	A-Zone Fore-cast	Geo-mag-netic K_A 01-12 GCT	Geo-mag-netic K_A 13-24 GCT
1	7	7			7	0	0
2	6	6			6	1	1
3	6	5			6	0	0
4	6	6			5	0	0
5	6	5			5	1	2
6	6	6			5	2	3
7	6	6			5	2	1
8	5	5			5	3	2
9	6	6	X	X	5	2	2
10	6	5			6	2	1
11	6	7	X	X	6	1	0
12	6	6			5	0	1
13	6	6			(4)	0	4
14	5	6	X	X	5	6	3
15	6	6	X	X	6	2	2
16	5	5	X	X	6	1	2
17	5	6	X	X	(4)	3	2
18	6	6	X	X	5	1	1
19	6	6	X	X	5	1	3
20	6	6			5	4	3
21	6	7	X	X	5	4	1
22	6	6	X	X	5	0	0
23	5	5			(4)	0	3
24	6	7			(4)	3	2
25	5	5			5	2	4
26	5	6		*	5	4	3
27	5	6	X	X	6	3	3
28	6	6	X	X	6	3	3
29	6	5	X	X	5	3	2
30	5	5	X	X	5	2	1
31	6	6	X	X	(4)	2	2

Score:	IRPL Warning	A-Zone Forecast
H	0	0
M	0	0
G	15	26
(S)	6	2
S	9	3

*No report issued on 25 December 1945 for 26 December 1945.

Quality Figure and Forecast Scale:
1 = Useless
2 = Very poor
3 = Poor
4 = Poor to fair
5 = Fair
6 = Fair to good
7 = Good
8 = Very good
9 = Excellent

Symbols
X = Warning given.
H = Quality 4 or worse on day or half-day of warning.
M = Quality 4 or worse on day or half-day of no warning.
G = Quality 5 or better on day of no no warning.
(S)= Quality 5 on day of warning.
S = Quality 6 or better on day of warning.
( )= Quality or forecast 4 or worse (disturbed)

Geomagnetic K_A on the standard scale of 0 to 9, 9 representing the greatest disturbance.

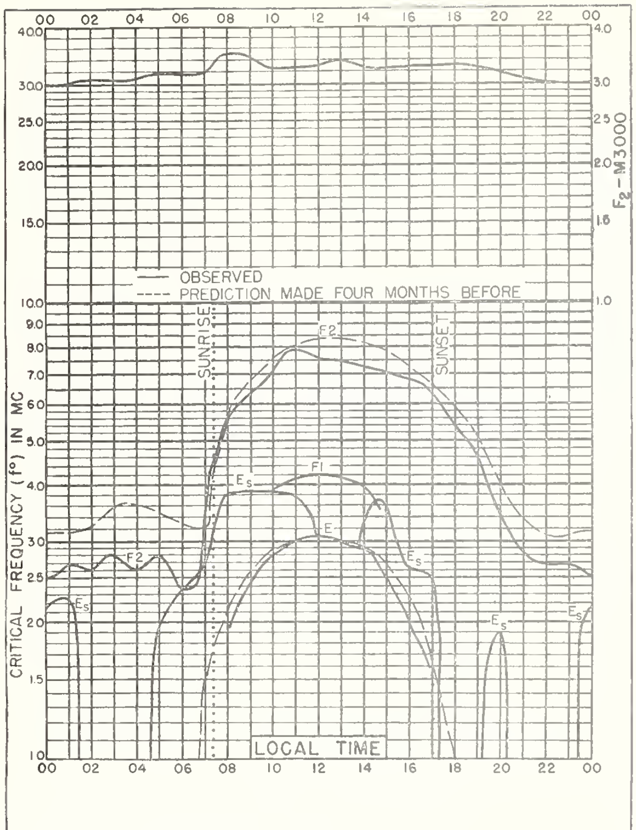


Fig. 1. WASHINGTON, D.C.
39.0°N, 77.5°W JANUARY, 1946

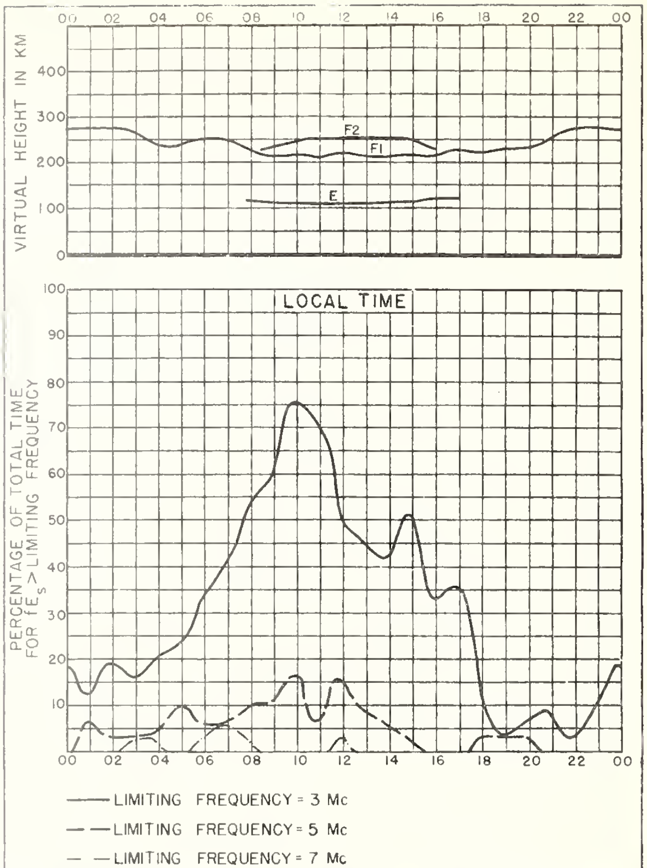


Fig. 2. WASHINGTON, D.C. JANUARY, 1946

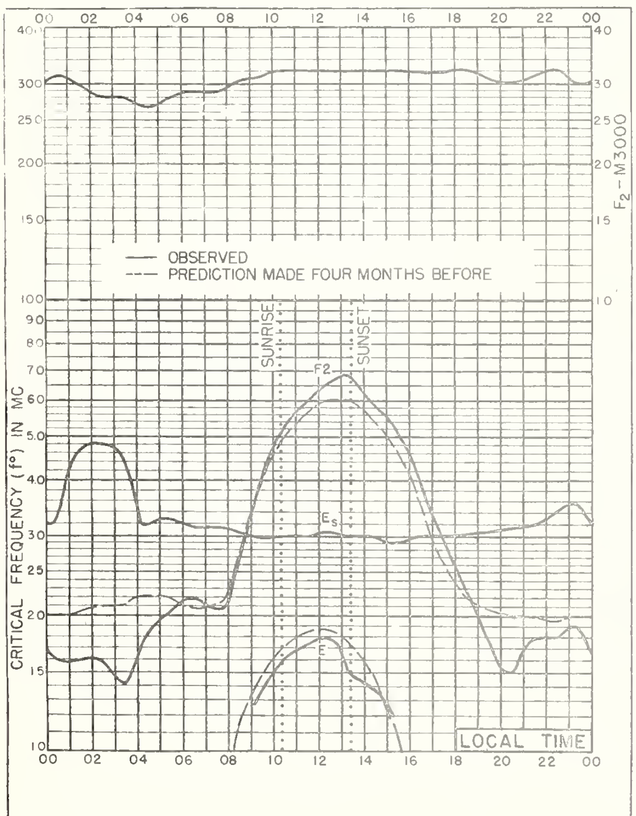


Fig. 3. FAIRBANKS, ALASKA
64.9°N, 147.8°W DECEMBER, 1945

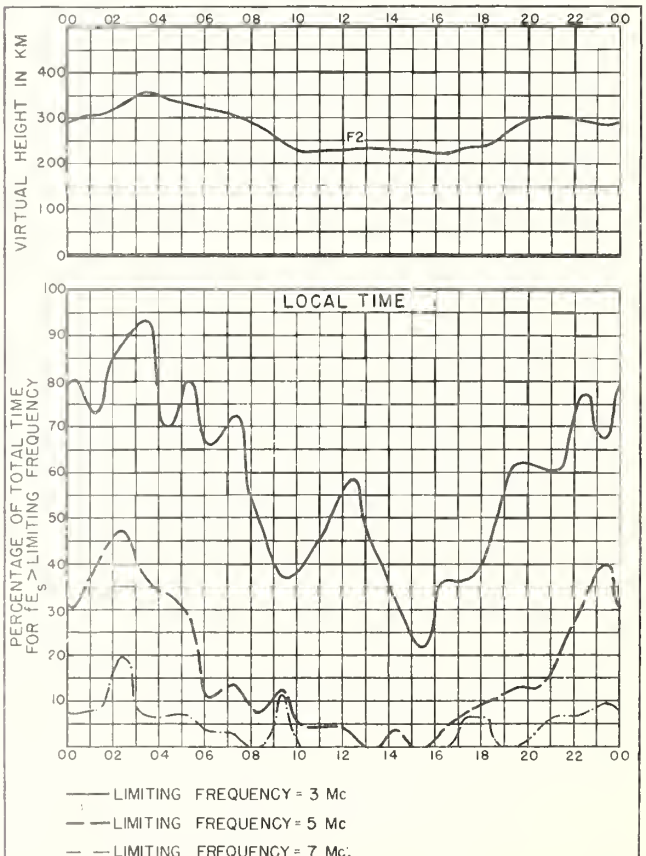


Fig. 4. FAIRBANKS, ALASKA DECEMBER, 1945

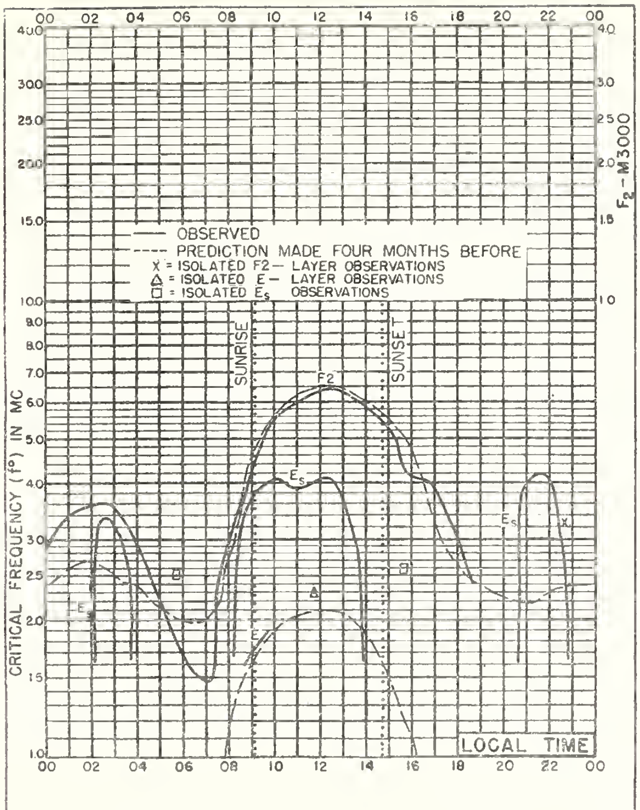


Fig. 5. OSLO, NORWAY
59.9°N, 11.0°E DECEMBER, 1945

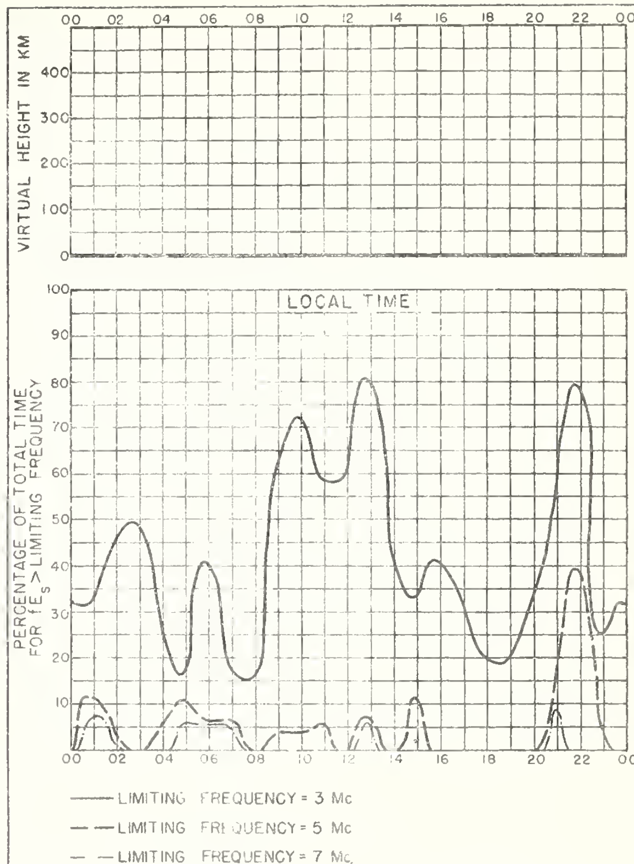


Fig. 6. OSLO, NORWAY DECEMBER, 1945

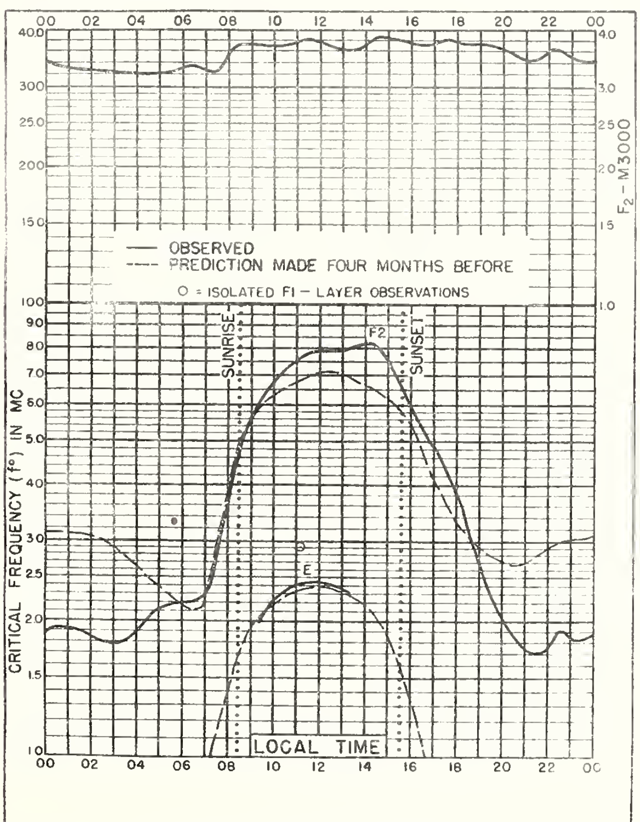


Fig. 7. PRINCE RUPERT, CANADA
54.3°N, 130.3°W DECEMBER, 1945

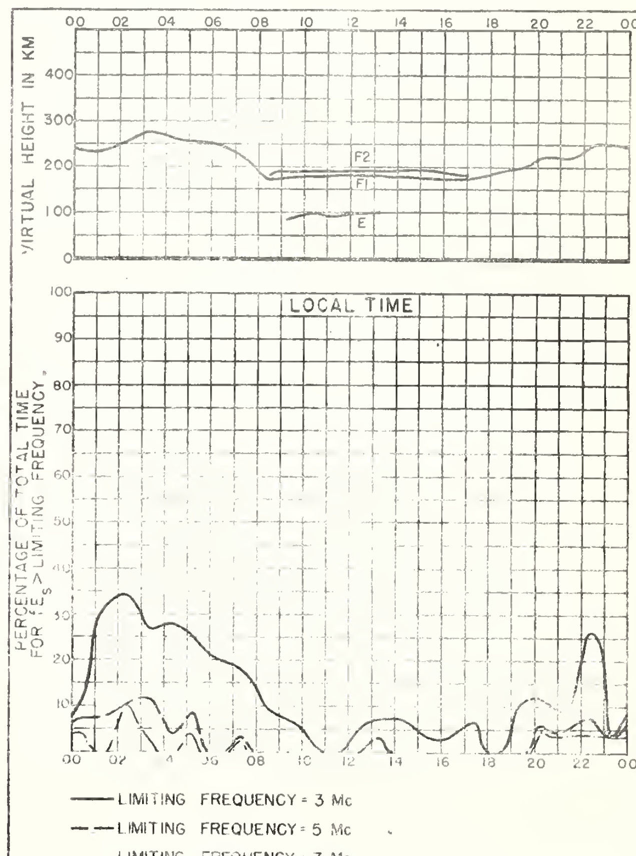


Fig. 8. PRINCE RUPERT, CANADA DECEMBER, 1945

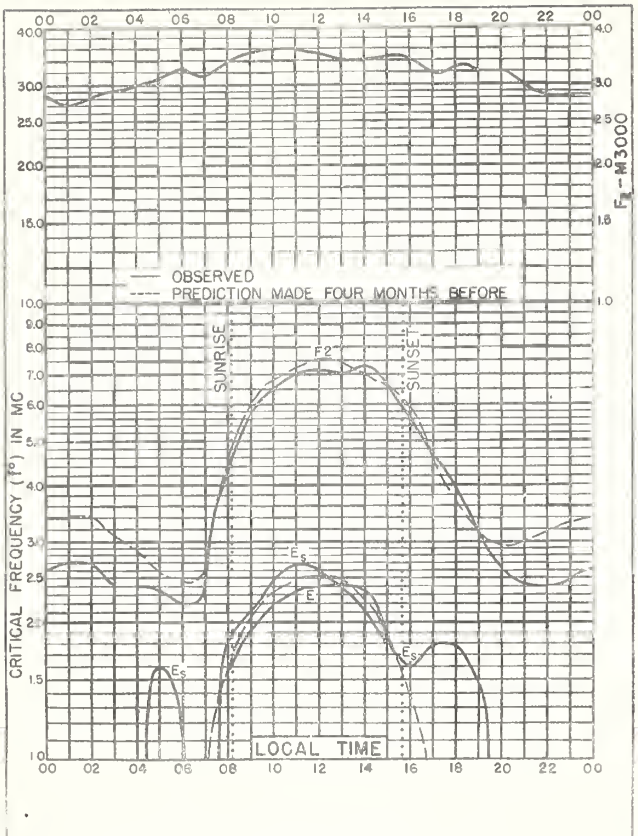


Fig. 9. GREAT BADDOW, ENGLAND
51.7°N, 0.5°E DECEMBER, 1945

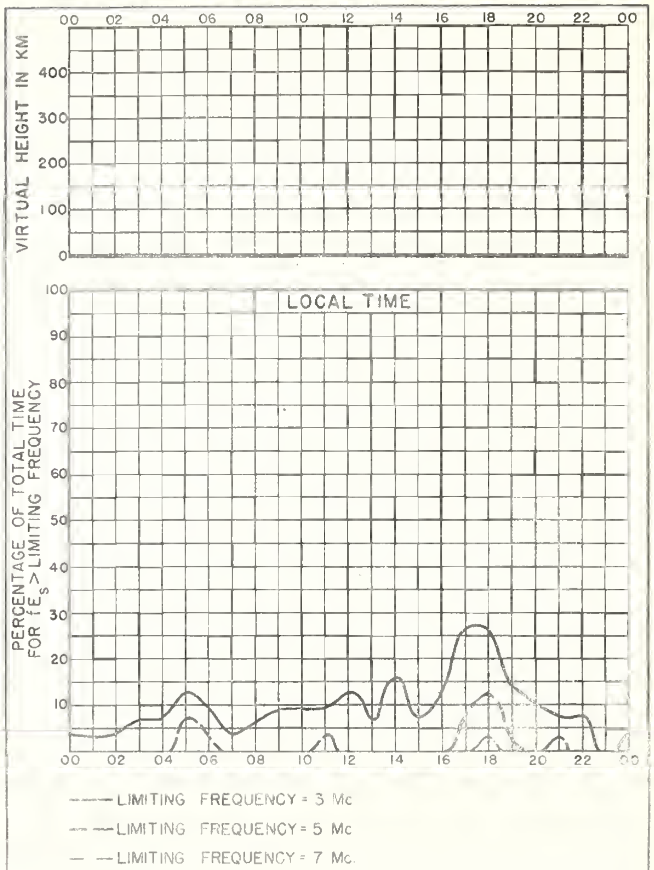


Fig. 10. GREAT BADDOW, ENGLAND DECEMBER, 1945

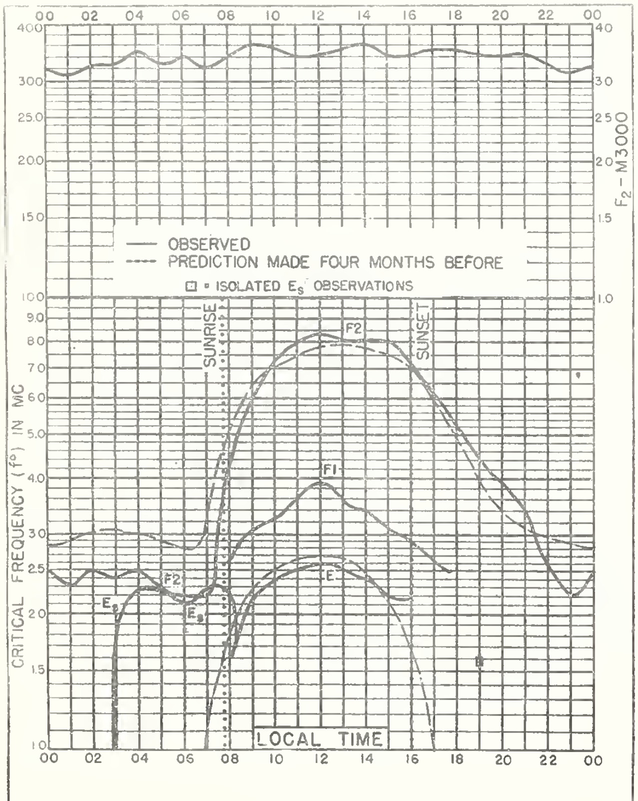


Fig. 11. ST. JOHN'S, NEWFOUNDLAND
47.7°N, 52.7°W DECEMBER, 1945

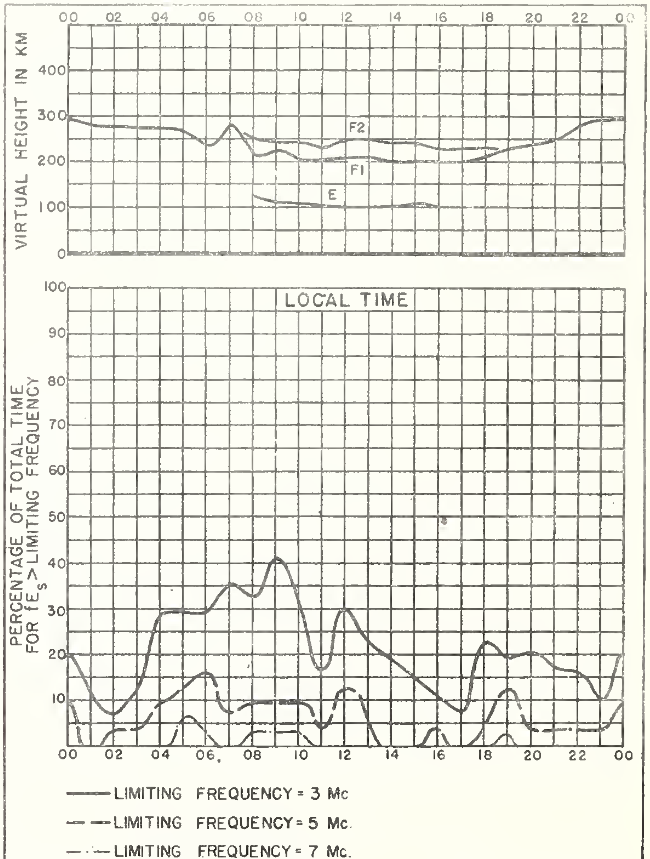


Fig. 12. ST. JOHN'S, NEWFOUNDLAND

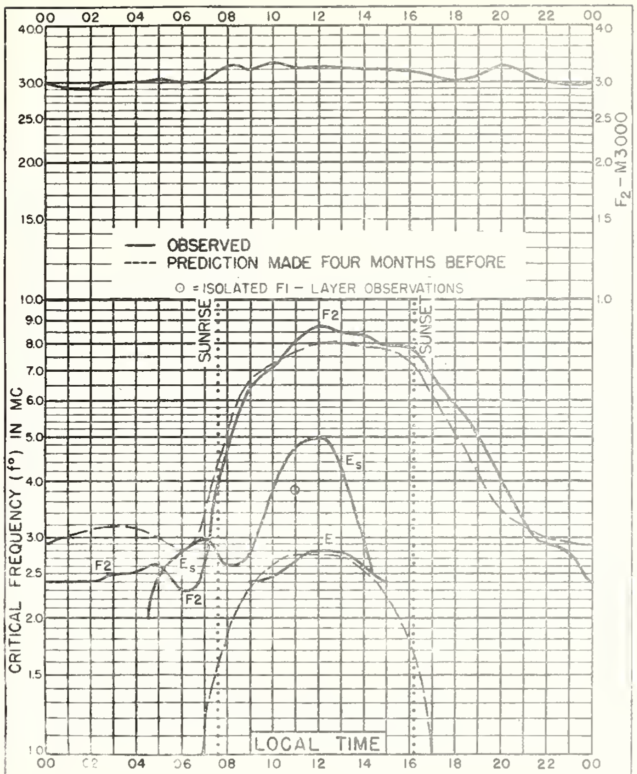


Fig. 13. OTTAWA, CANADA
45.5°N, 75.8°W DECEMBER, 1945

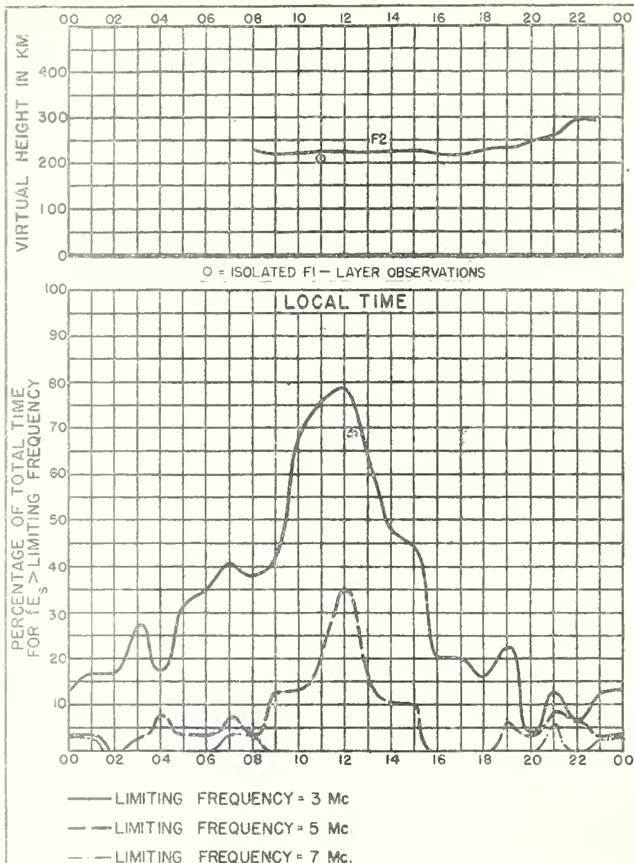


Fig. 14. OTTAWA, CANADA DECEMBER, 1945

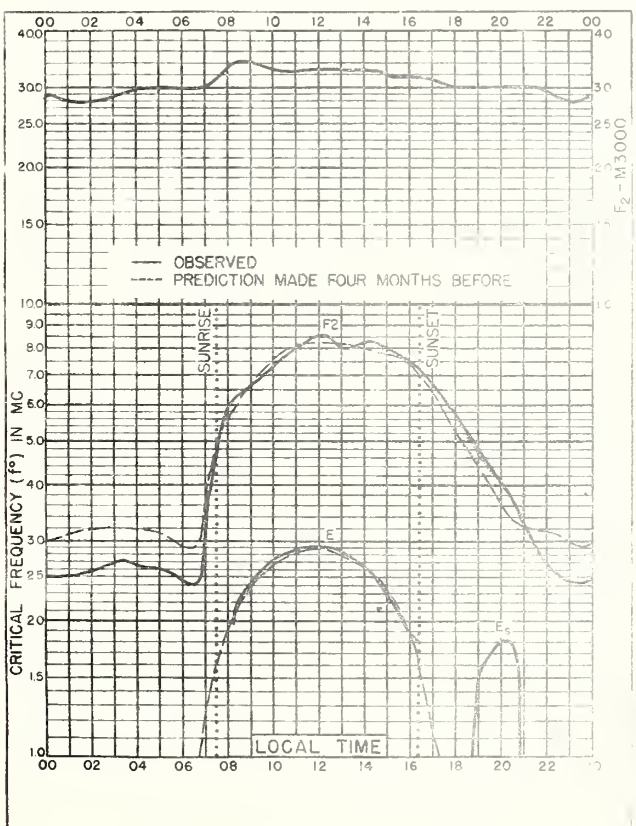


Fig. 15. BOSTON, MASSACHUSETTS
42.4°N, 71.2°W DECEMBER, 1945

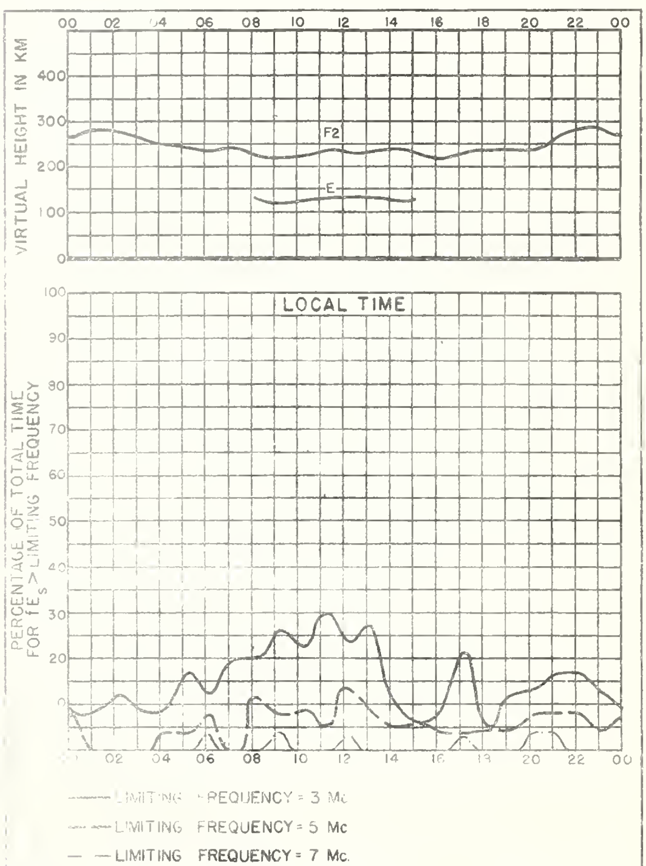


Fig. 16. BOSTON, MASSACHUSETTS DECEMBER, 1945

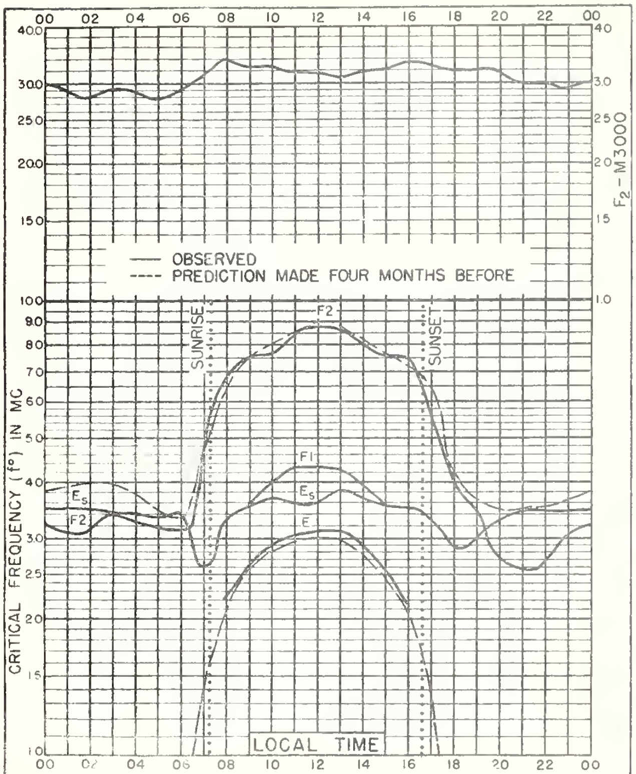


Fig. 17. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W DECEMBER, 1945

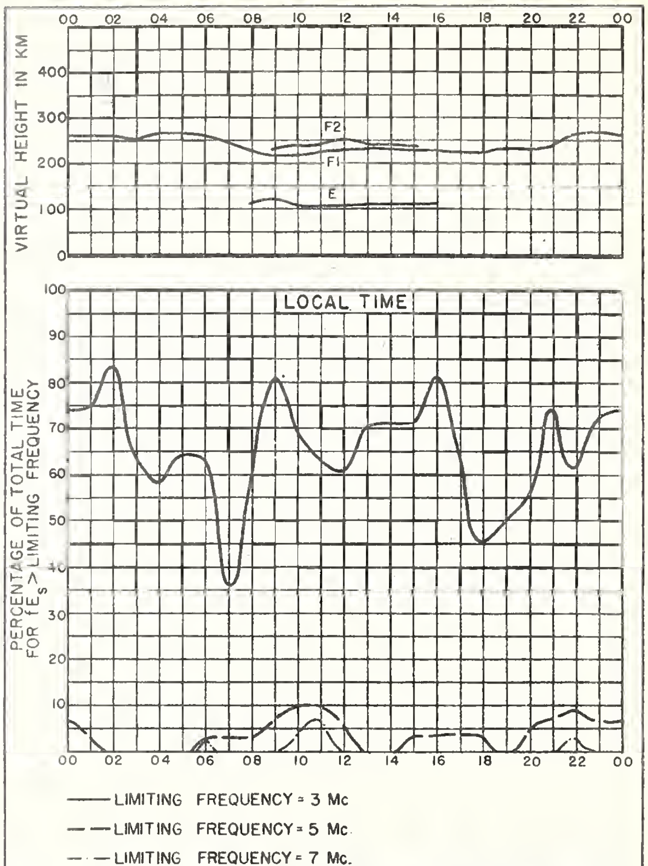


Fig. 18. SAN FRANCISCO, CALIFORNIA DECEMBER, 1945

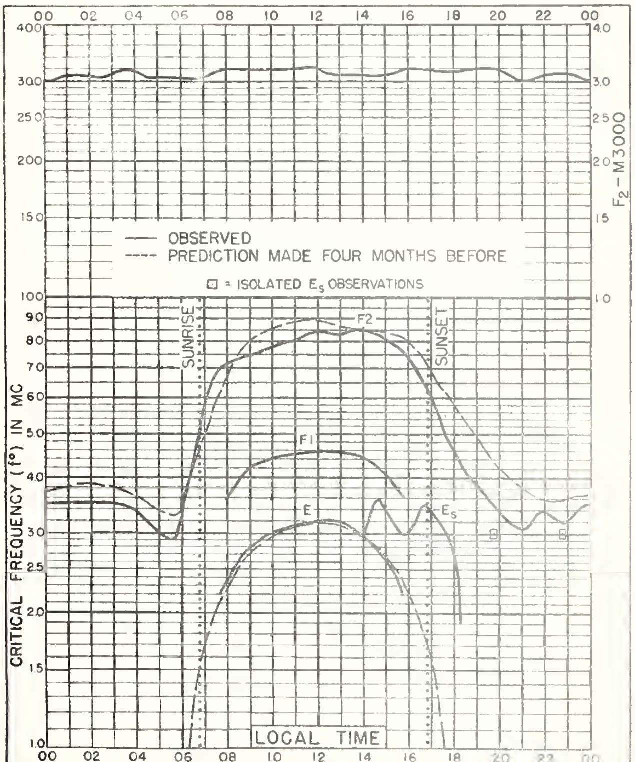


Fig. 19. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W DECEMBER, 1945

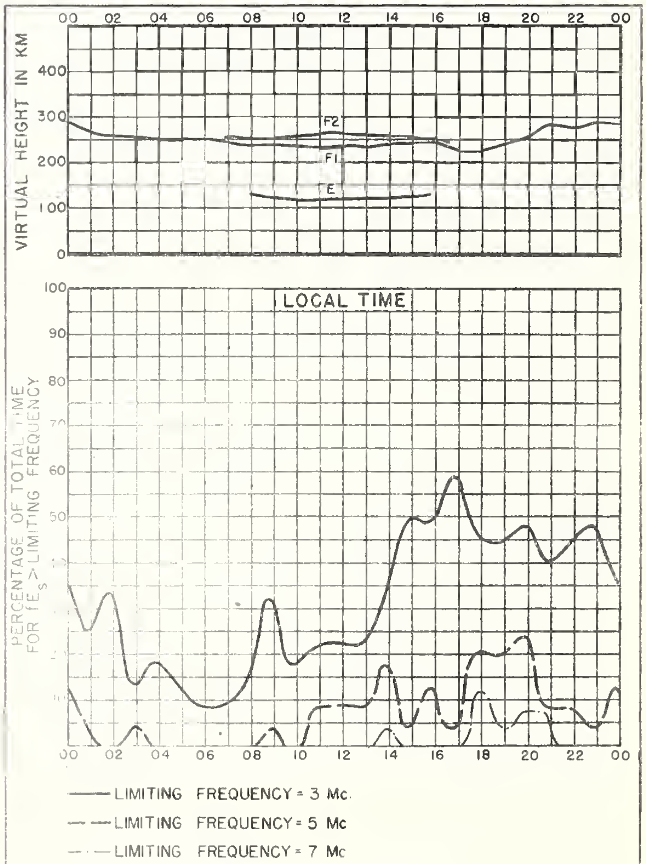


Fig. 20. BATON ROUGE, LOUISIANA DECEMBER, 1945

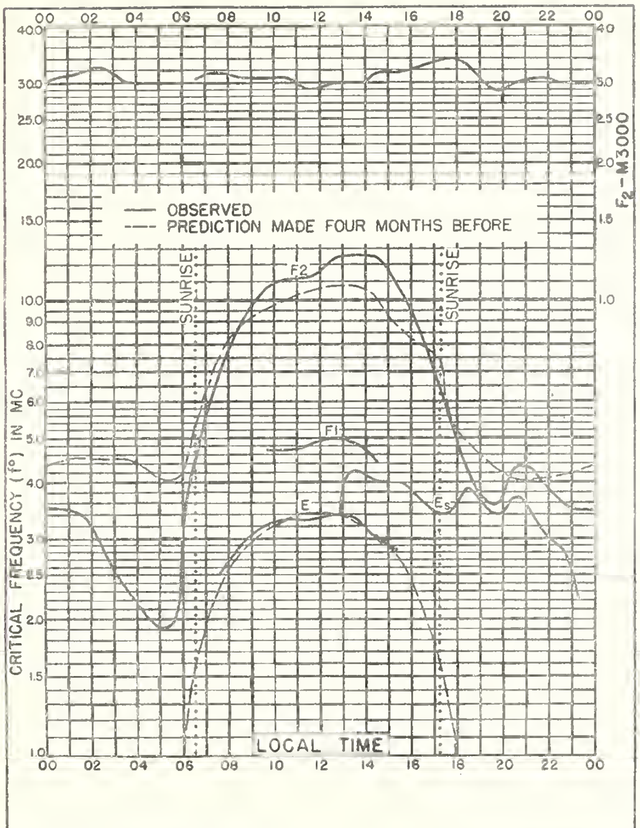


Fig. 21. MAUI, HAWAII
20.8°N, 156.5°W DECEMBER, 1945

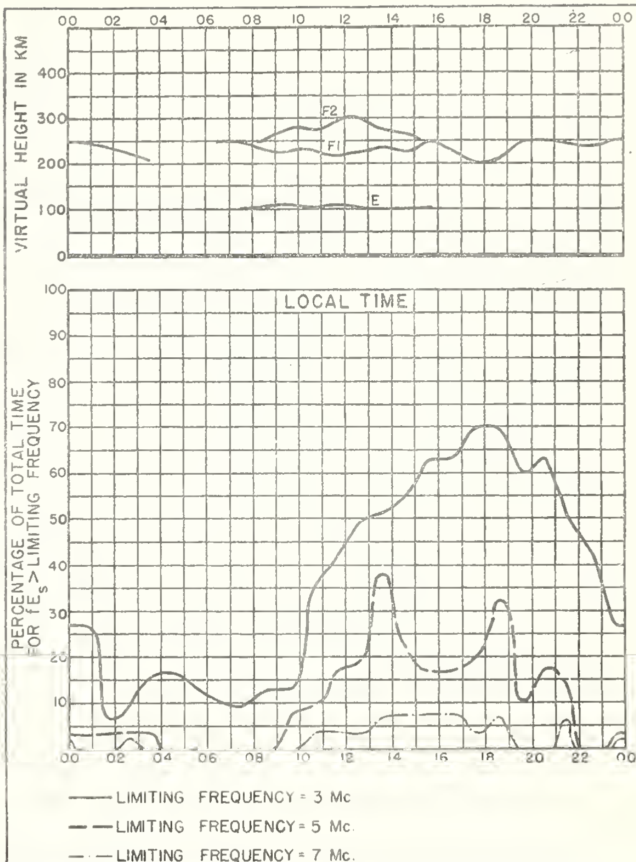


Fig. 22. MAUI, HAWAII DECEMBER, 1945

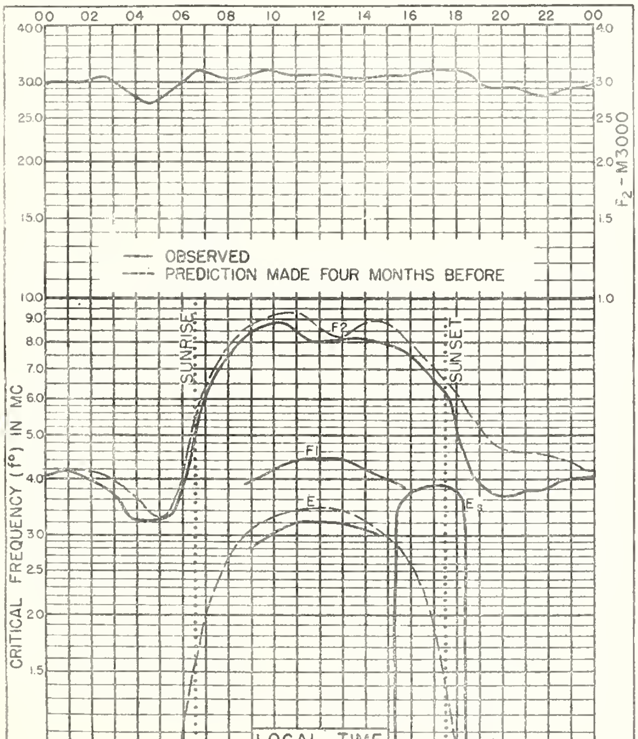


Fig. 23. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W DECEMBER, 1945

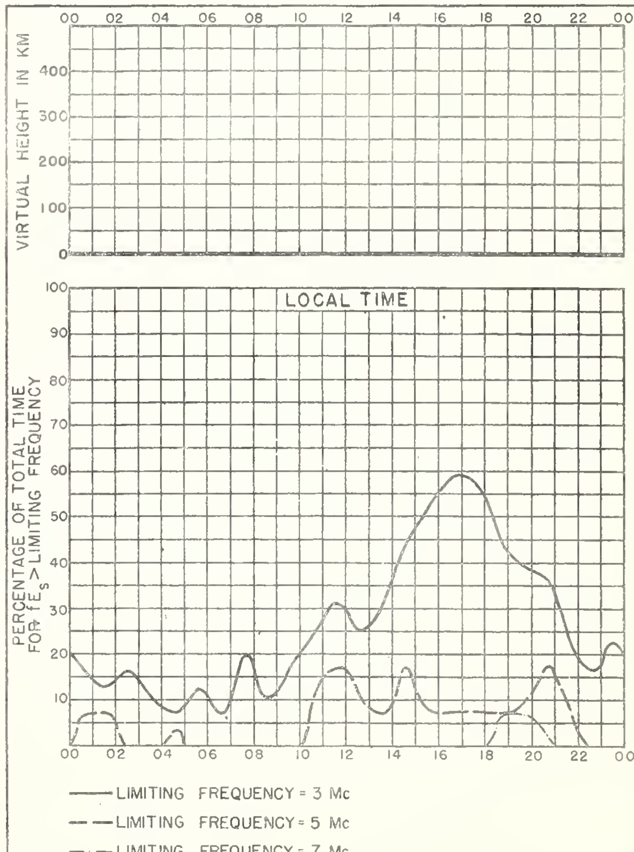


Fig. 24. SAN JUAN, PUERTO RICO DECEMBER, 1945

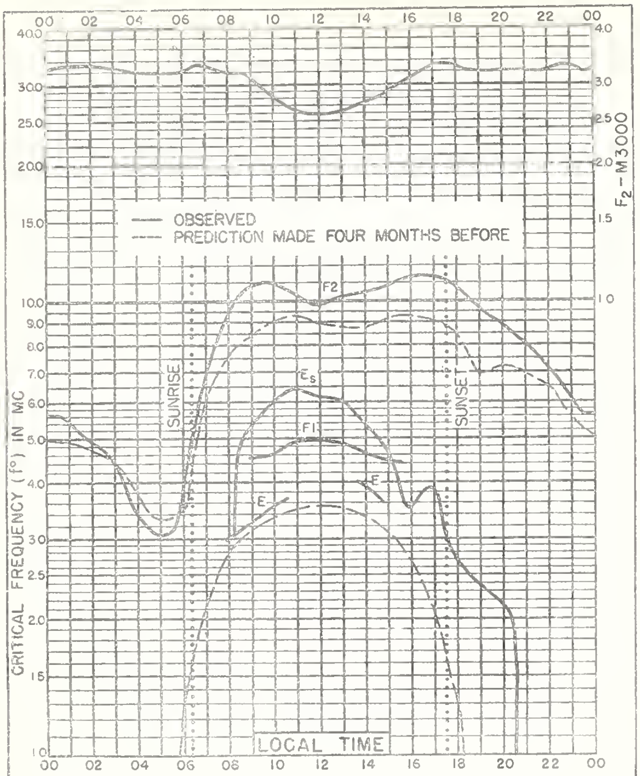


Fig. 25. GUAM I.
13.5°N, 144.8°E DECEMBER, 1945

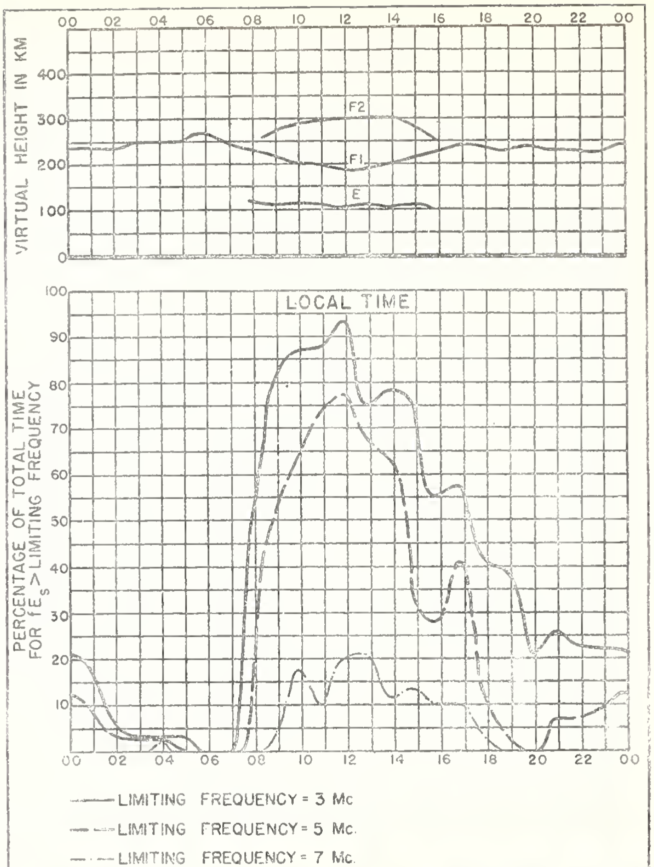


Fig. 26. GUAM I. DECEMBER, 1945

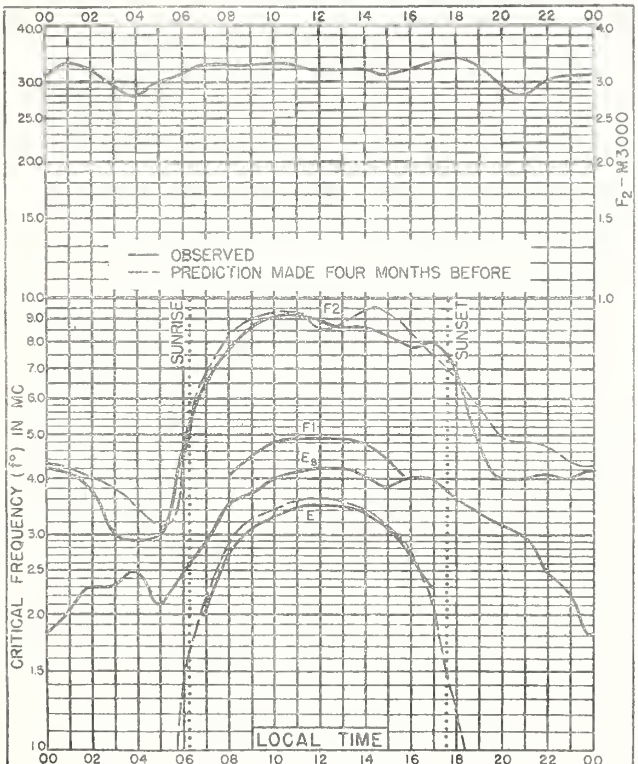


Fig. 27. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.2°W DECEMBER, 1945

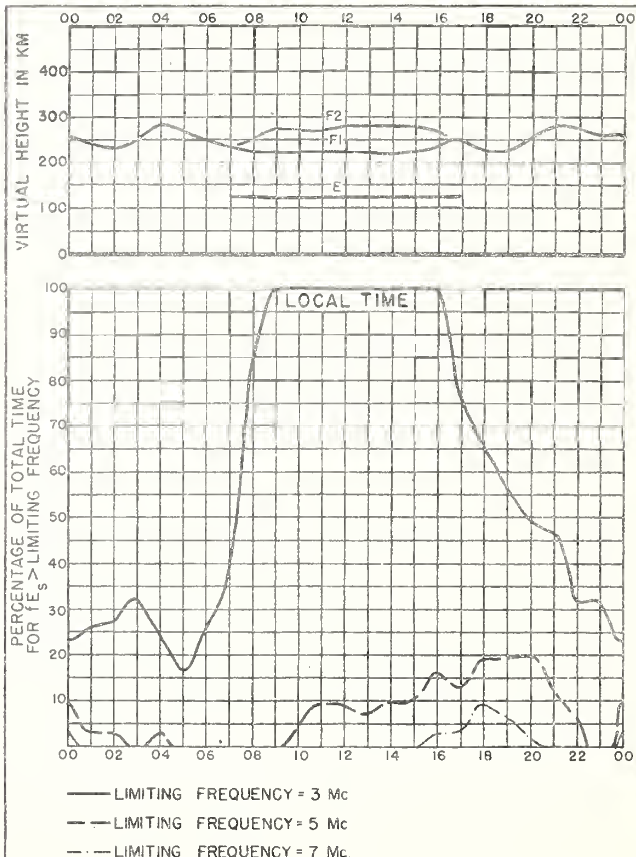


Fig. 28. TRINIDAD, BRIT. WEST INDIES DECEMBER, 1945

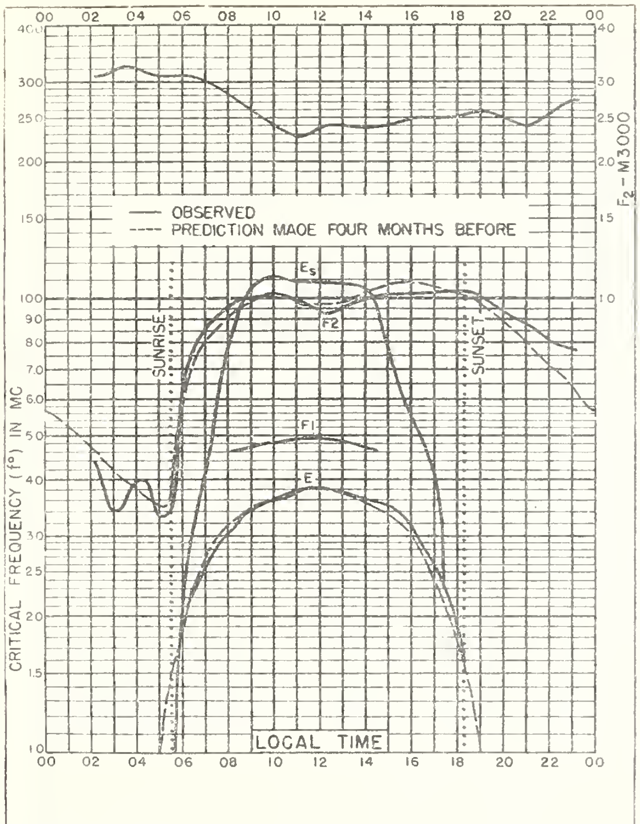


Fig. 29. HUANCAYO, PERU
12.0°S, 75.3°W DECEMBER, 1945

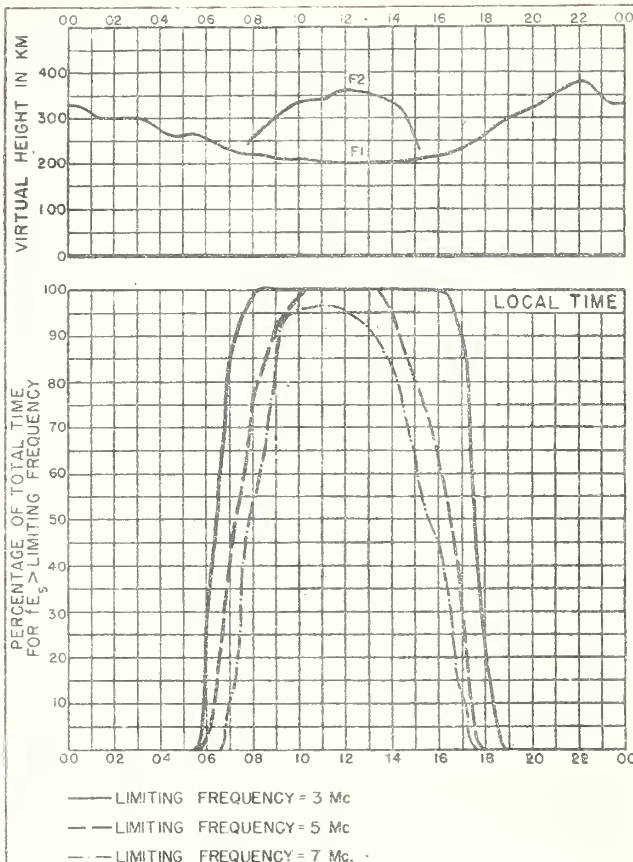


Fig. 30. HUANCAYO, PERU DECEMBER, 1945

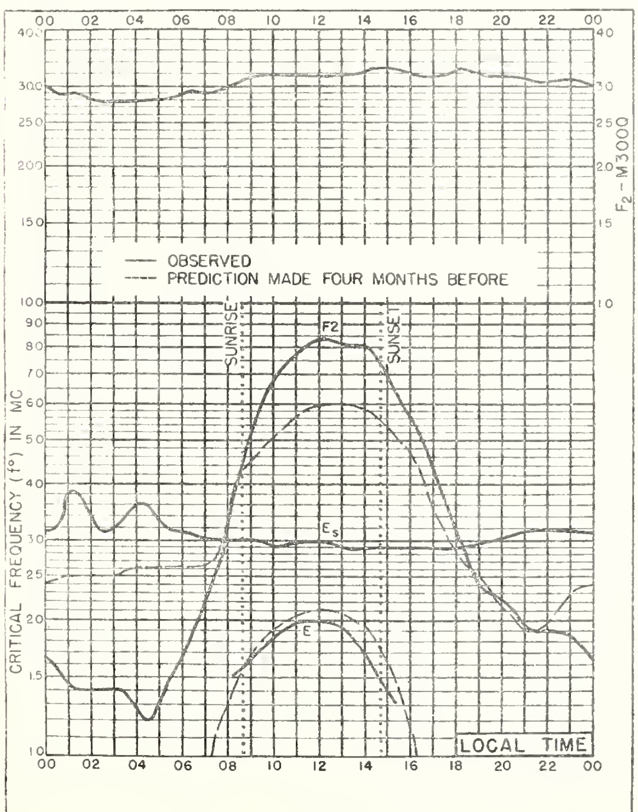


Fig. 31. FAIRBANKS, ALASKA
64.9°N, 147.8°W NOVEMBER, 1945

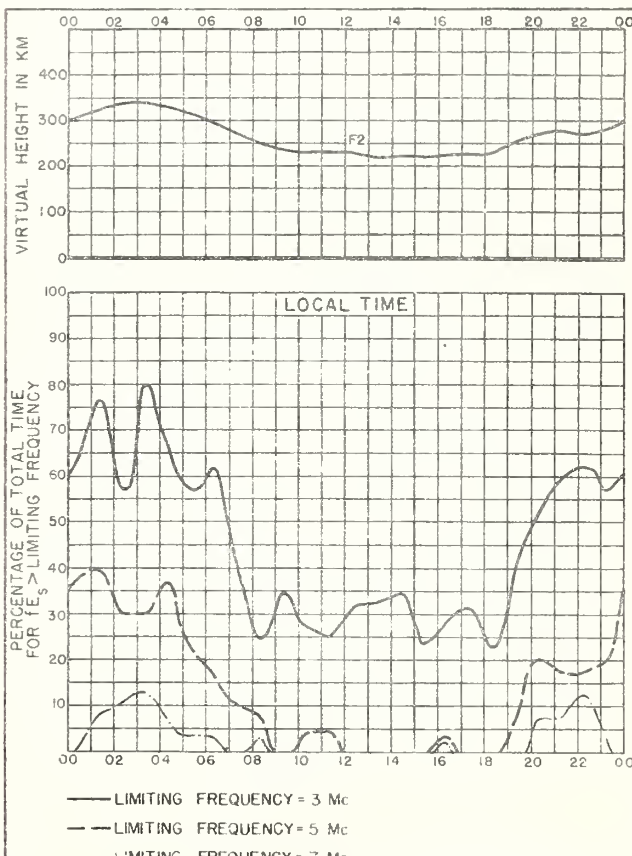


Fig. 32. FAIRBANKS, ALASKA NOVEMBER, 1945

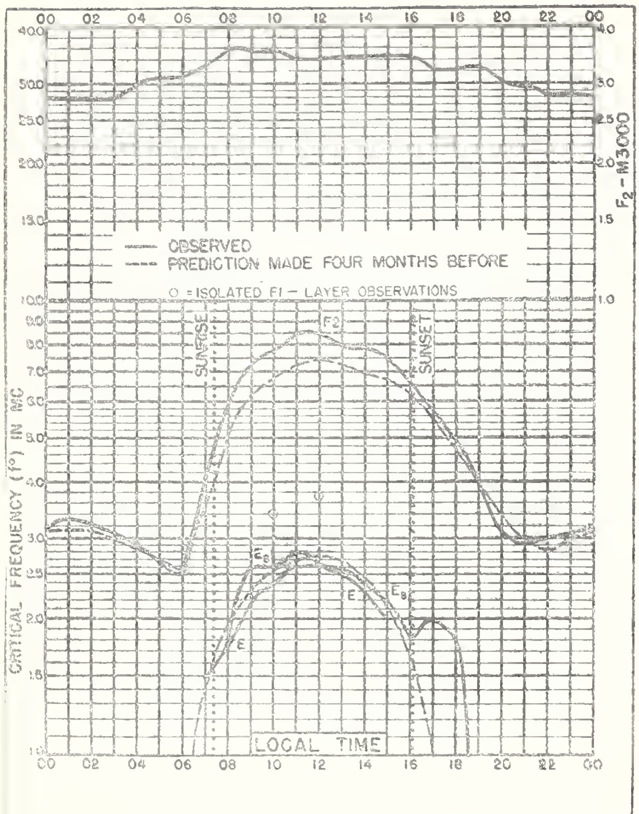


Fig. 33. GREAT BADDOW, ENGLAND
51.7°N, 0.5°E NOVEMBER, 1945

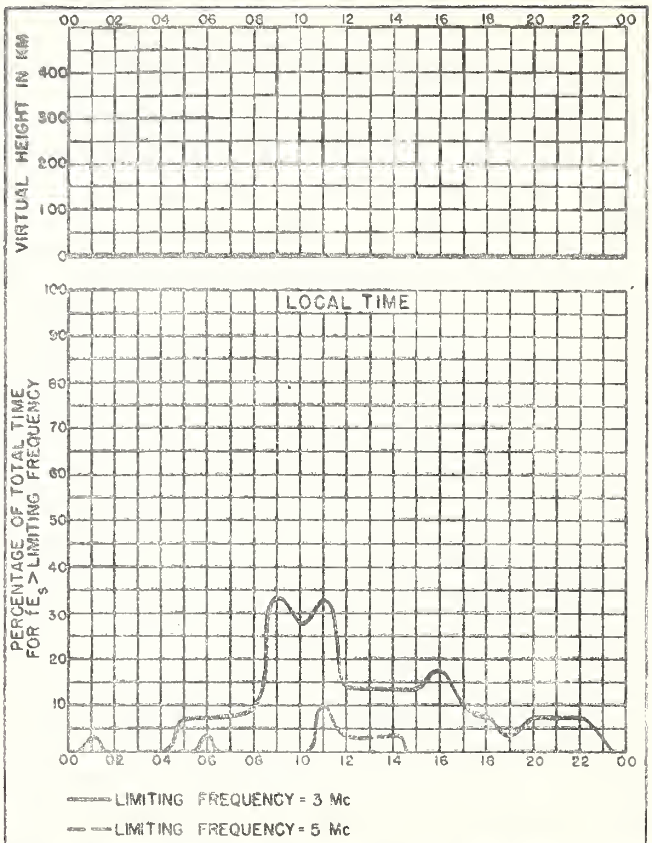


Fig. 34. GREAT BADDOW, ENGLAND NOVEMBER, 1945

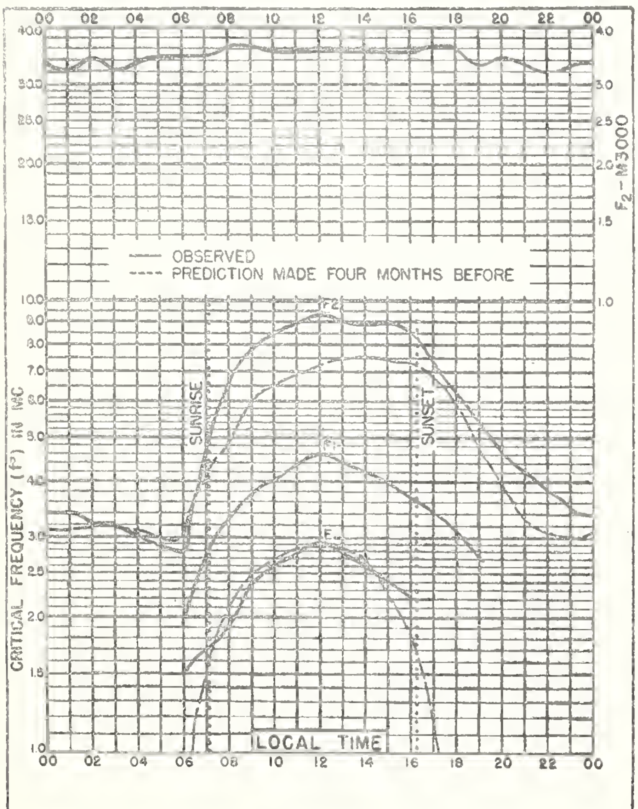


Fig. 35. ST. JOHN'S, NEWFOUNDLAND
47.7°N, 52.7°W NOVEMBER, 1945

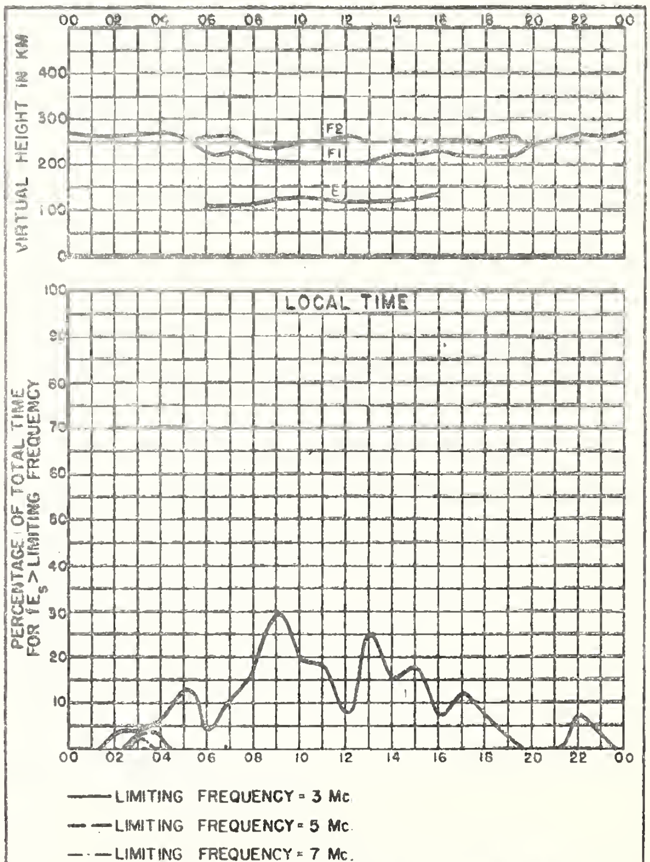


Fig. 36. ST. JOHN'S, NEWFOUNDLAND NOVEMBER, 1945

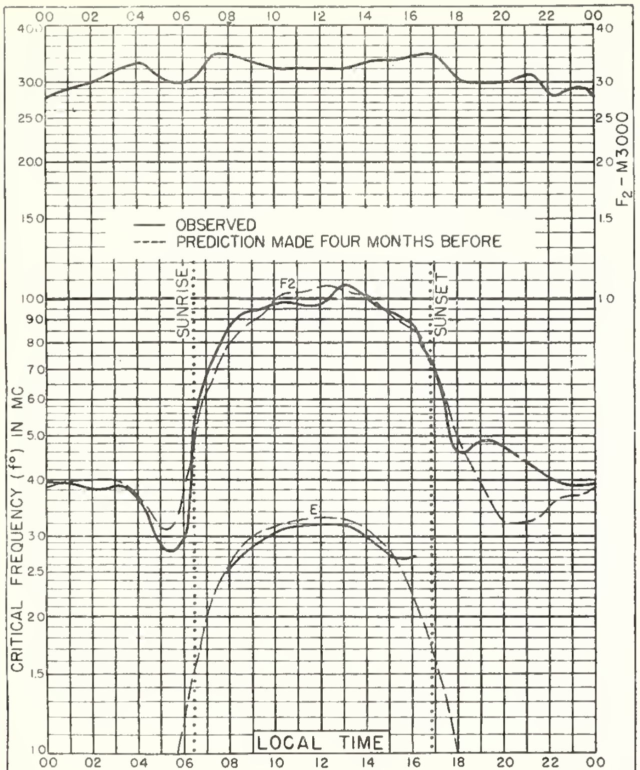


Fig. 37. CAIRO, EGYPT
30.0°N, 31.2°E NOVEMBER, 1945

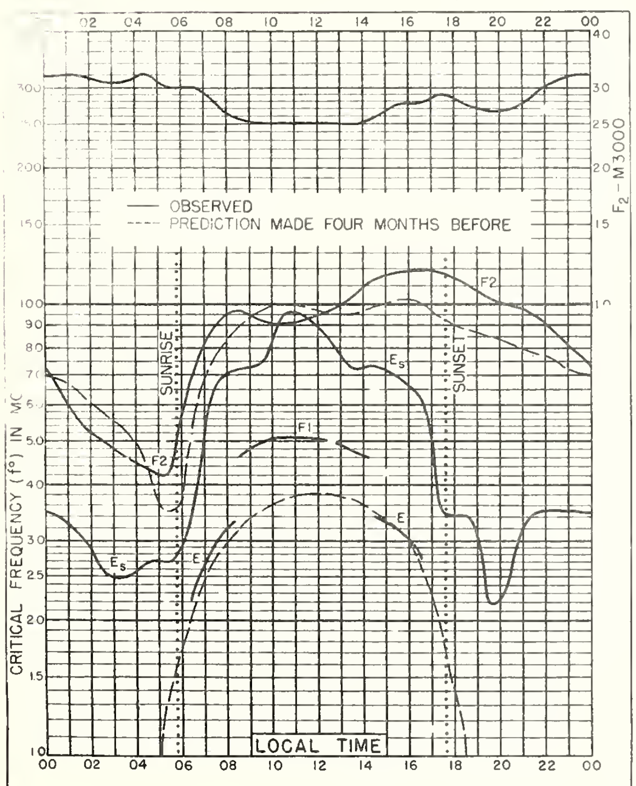


Fig. 38. CHRISTMAS I.
1.9°N, 157.3°W NOVEMBER, 1945

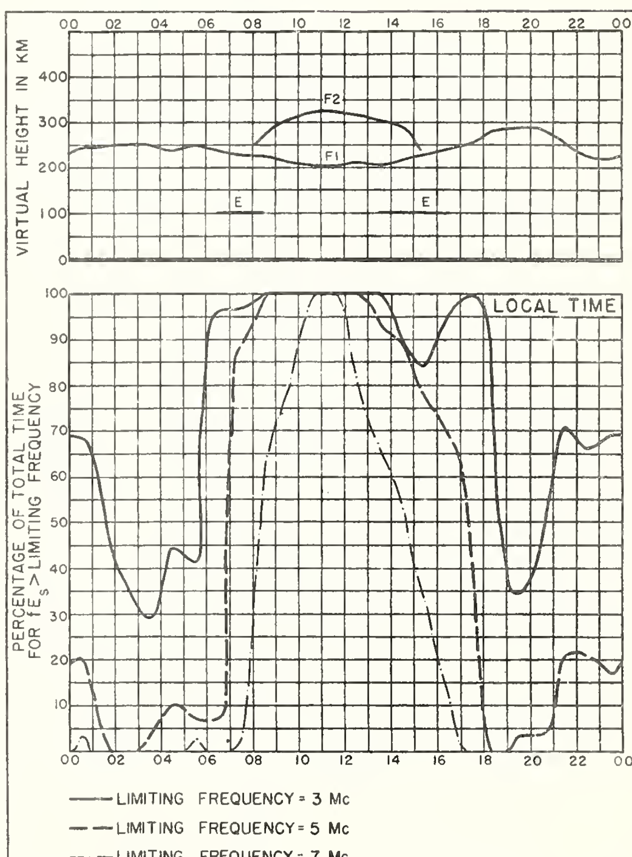


Fig. 39. CHRISTMAS I. NOVEMBER, 1945

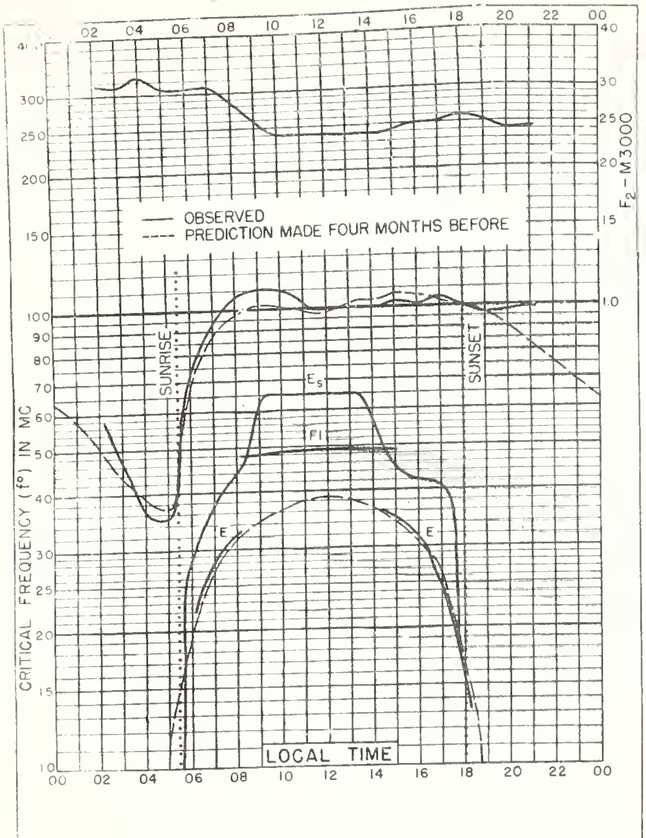


Fig. 40. HUANCAYO, PERU
12.0°S, 75.3°W NOVEMBER, 1945

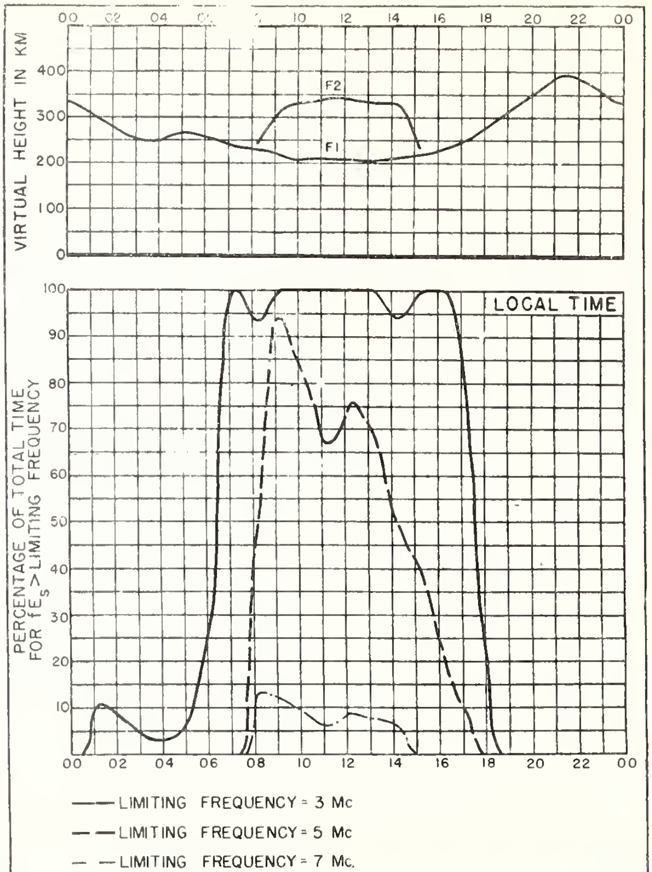


Fig. 41. HUANCAYO, PERU NOVEMBER, 1945

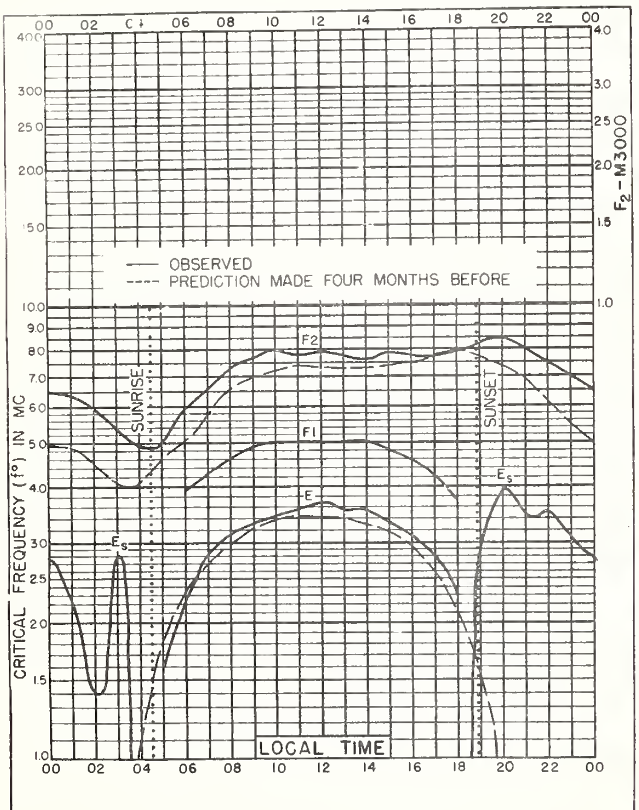


Fig. 42. CHRISTCHURCH, N.Z.
43.5°S, 172.6°E NOVEMBER, 1945

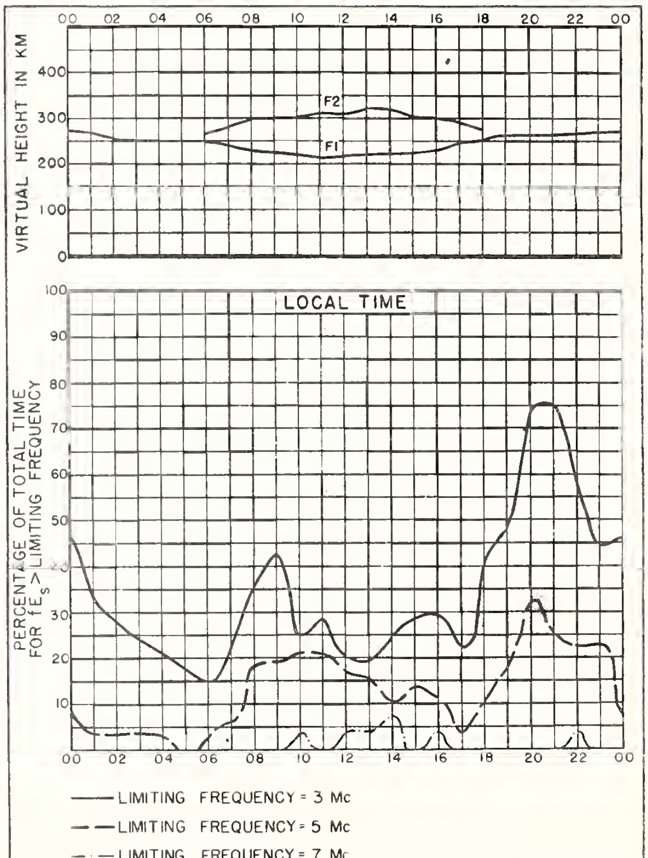


Fig. 43. CHRISTCHURCH, N.Z. NOVEMBER, 1945

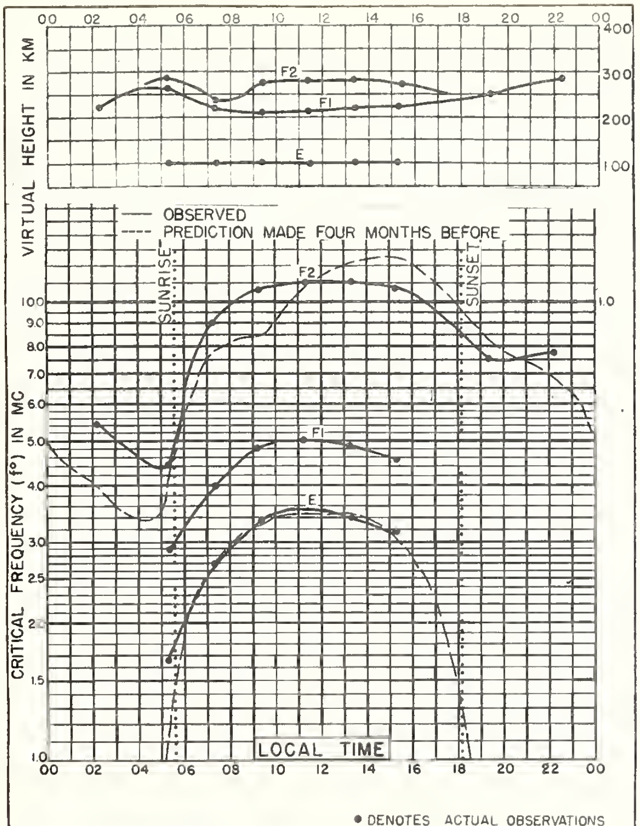


Fig. 44. PITCAIRN I.
25.0°S, 130.0°W OCTOBER, 1945

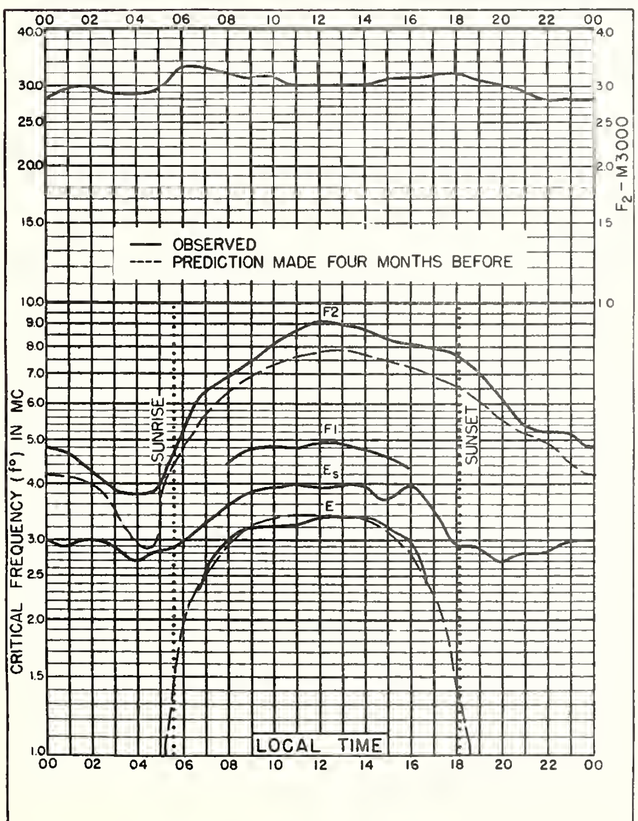


Fig. 45. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E OCTOBER, 1945

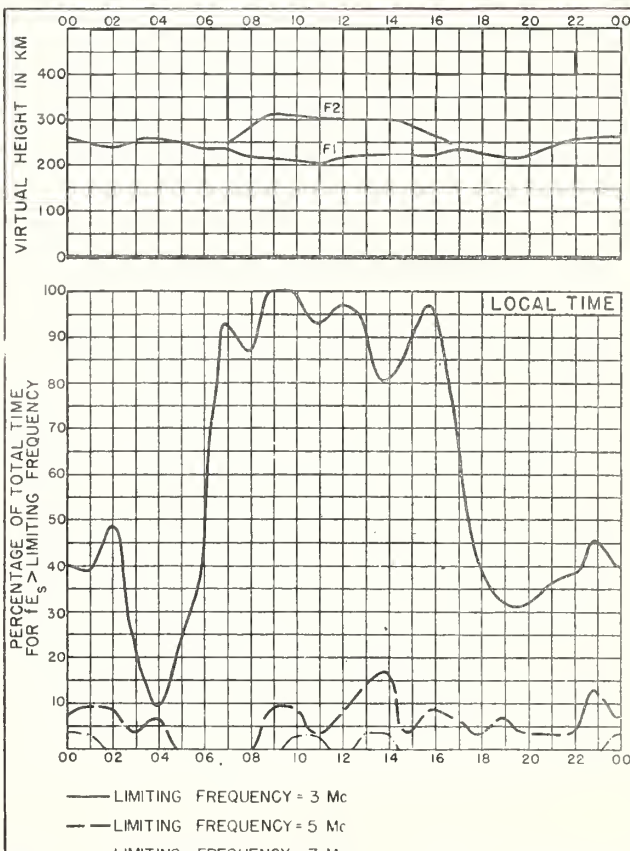


Fig. 46. WATHEROO, W. AUSTRALIA OCTOBER, 1945

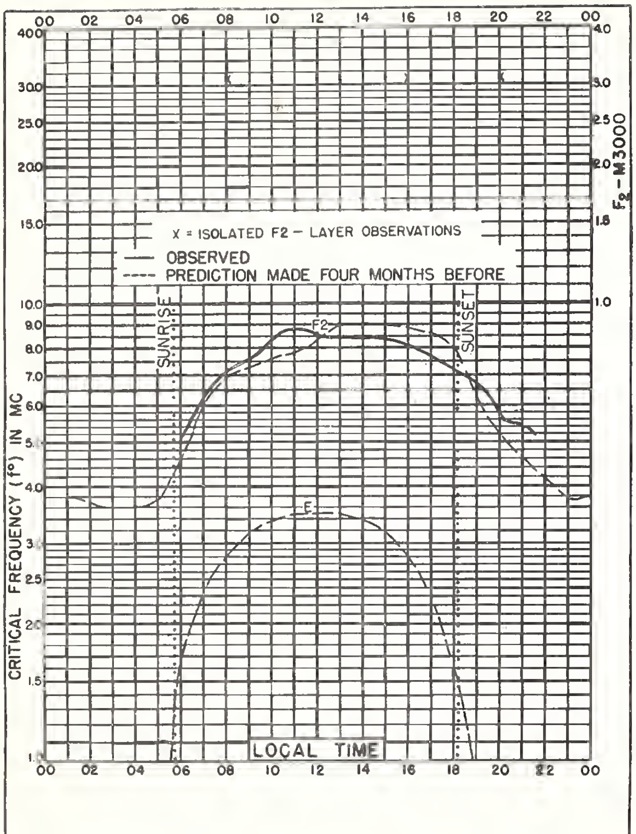


Fig. 47. PESHAWAR, INDIA
34.0°N, 71.5°E SEPTEMBER, 1945

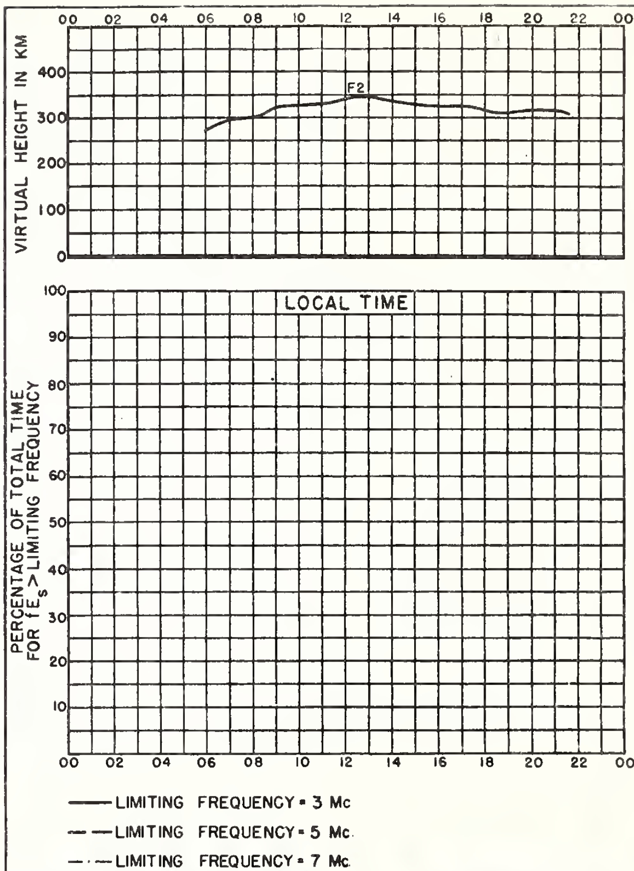


Fig. 48. PESHAWAR, INDIA SEPTEMBER, 1945

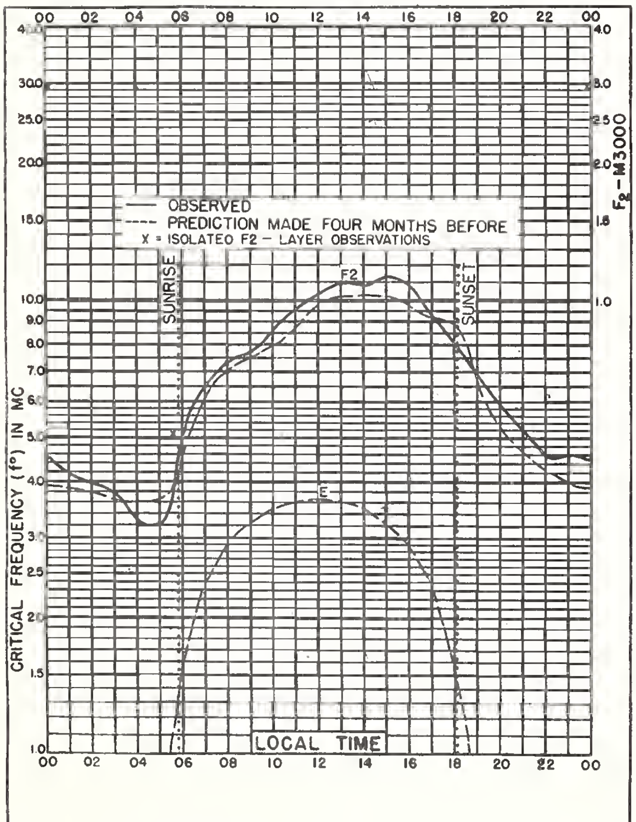


Fig. 49. DELHI, INDIA
28.6°N, 77.2°E SEPTEMBER, 1945

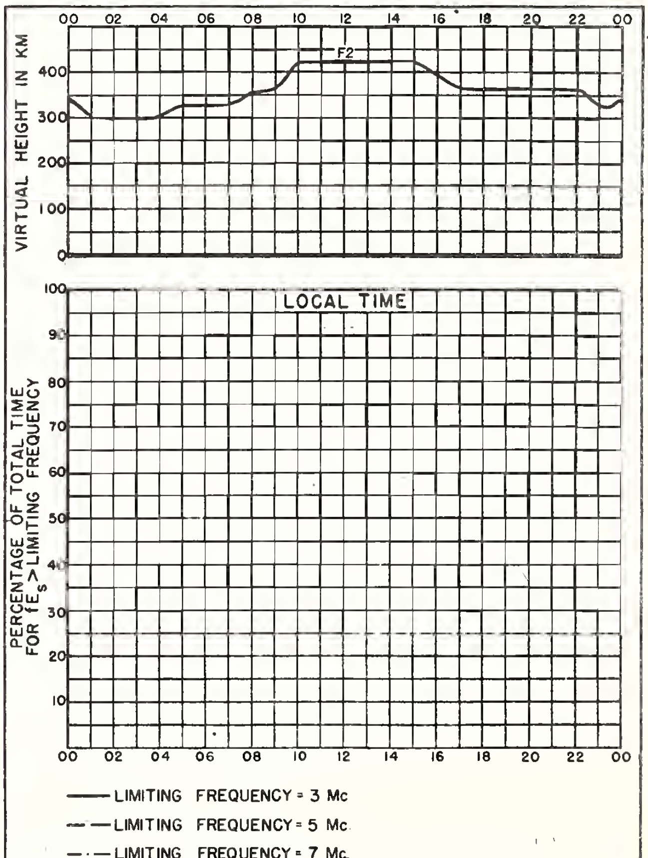


Fig. 50. DELHI, INDIA SEPTEMBER, 1945

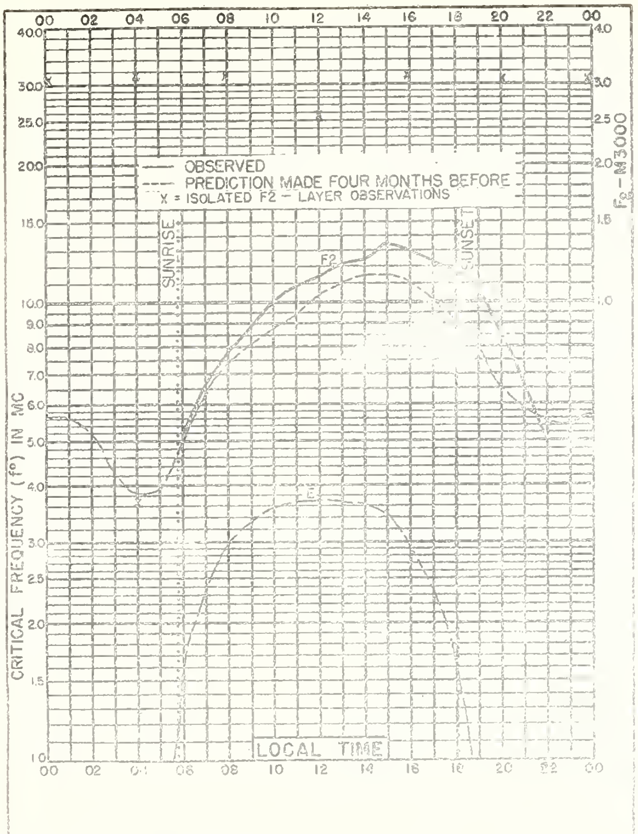


Fig. 51. BOMBAY, INDIA
19.0°N, 73.0°E SEPTEMBER, 1945

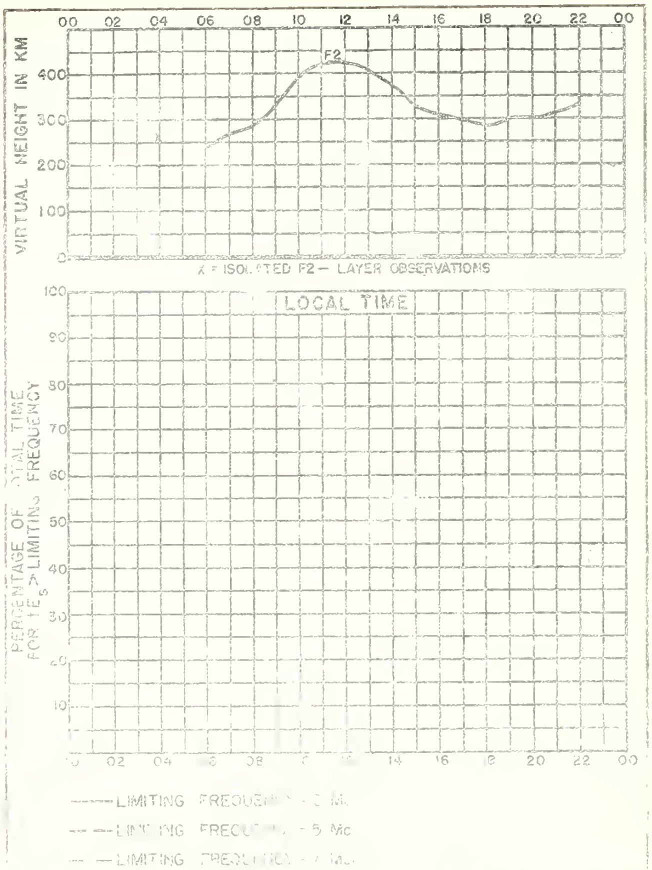


Fig. 52. BOMBAY, INDIA SEPTEMBER, 1945

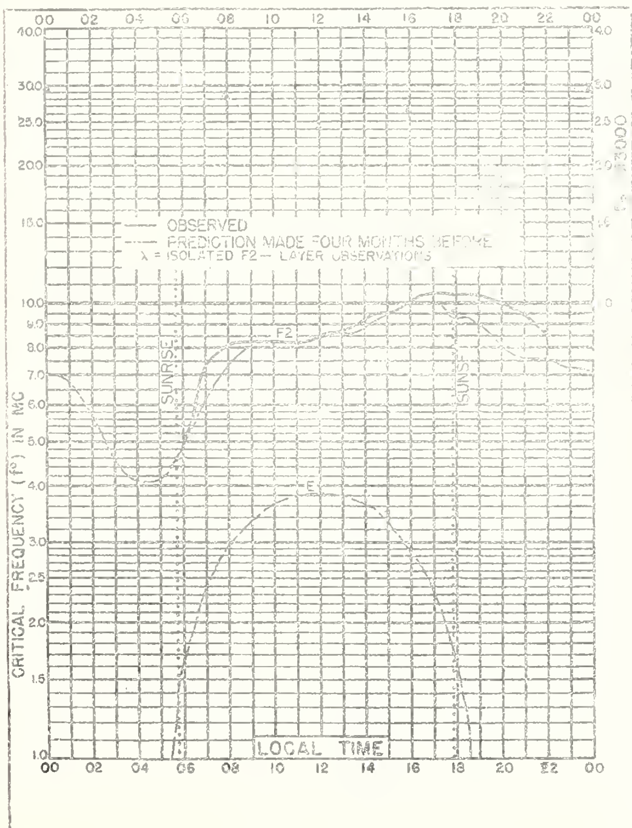


Fig. 53. MADRAS, INDIA
13.0°N, 80.2°E SEPTEMBER, 1945

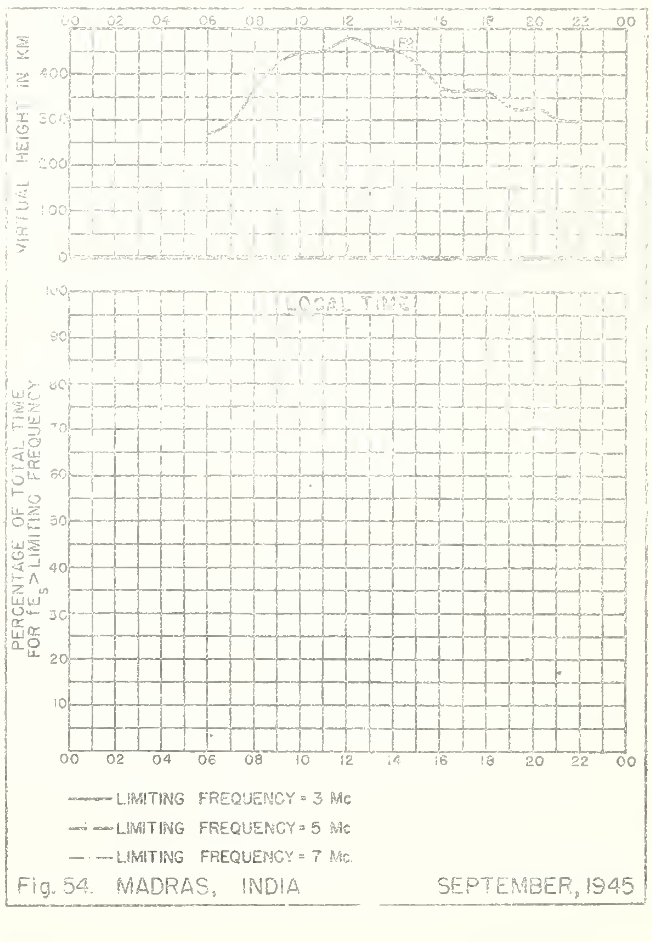


Fig. 54. MADRAS, INDIA SEPTEMBER, 1945

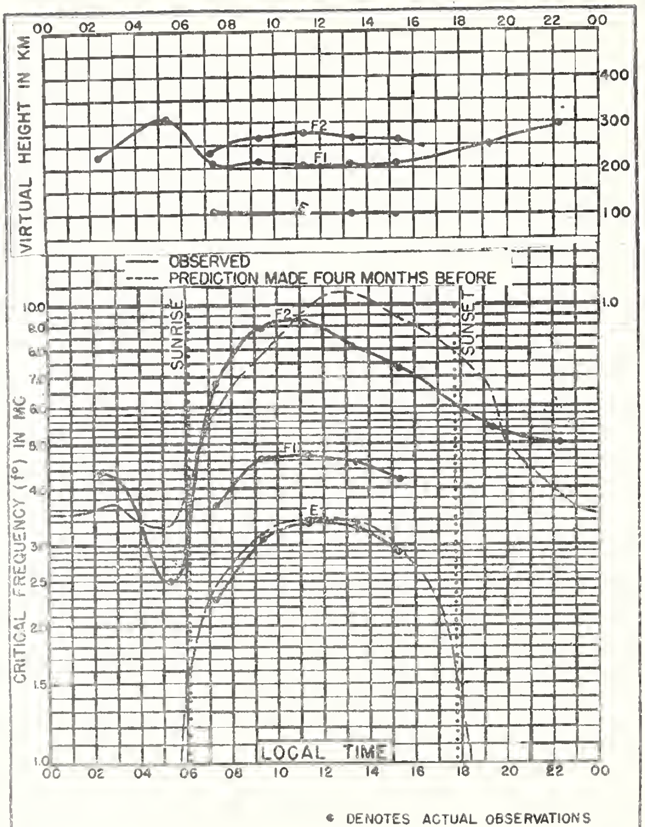


Fig. 55. PITCAIRN I.
25.0°S, 130.0°W SEPTEMBER, 1945

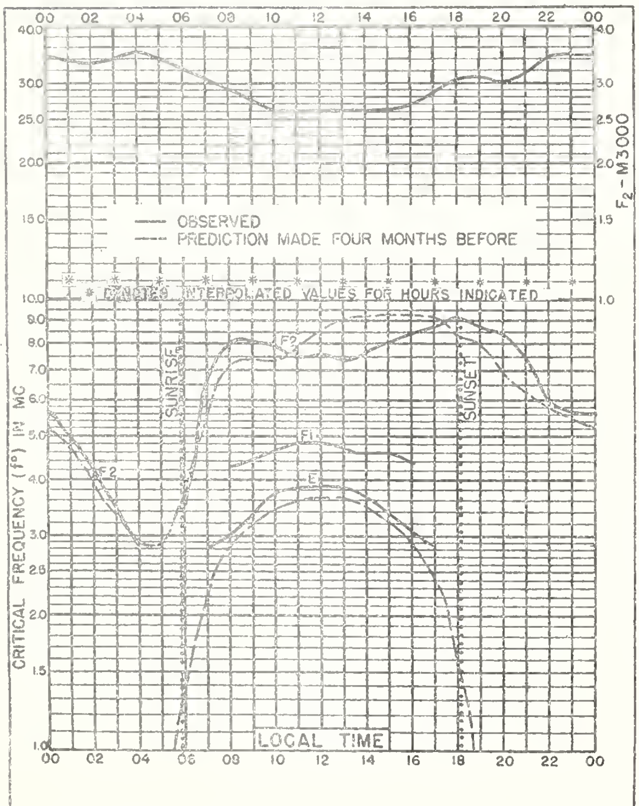


Fig. 56. COLOMBO, CEYLON
6.6°N, 80.0°E AUGUST, 1945

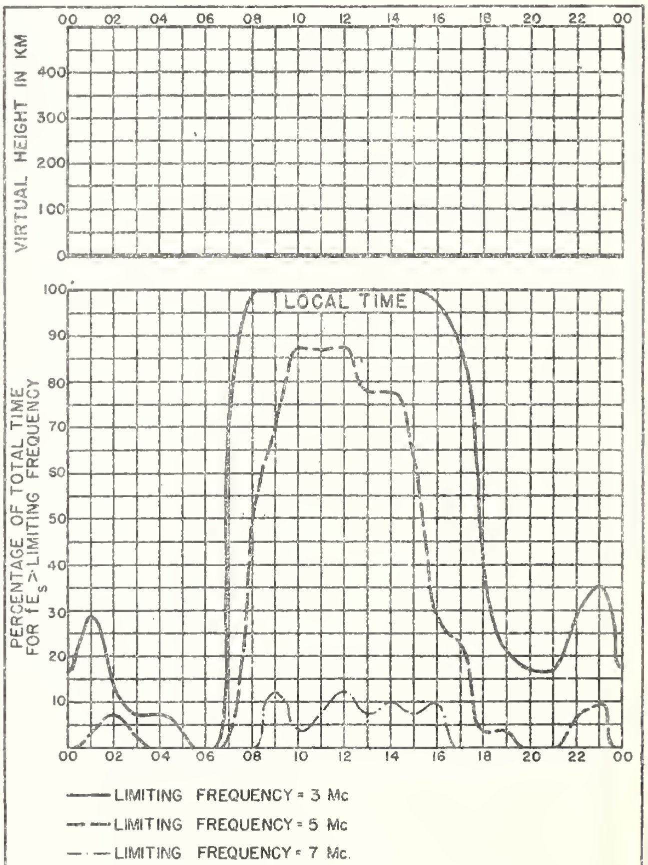


Fig. 57. COLOMBO, CEYLON AUGUST, 1945

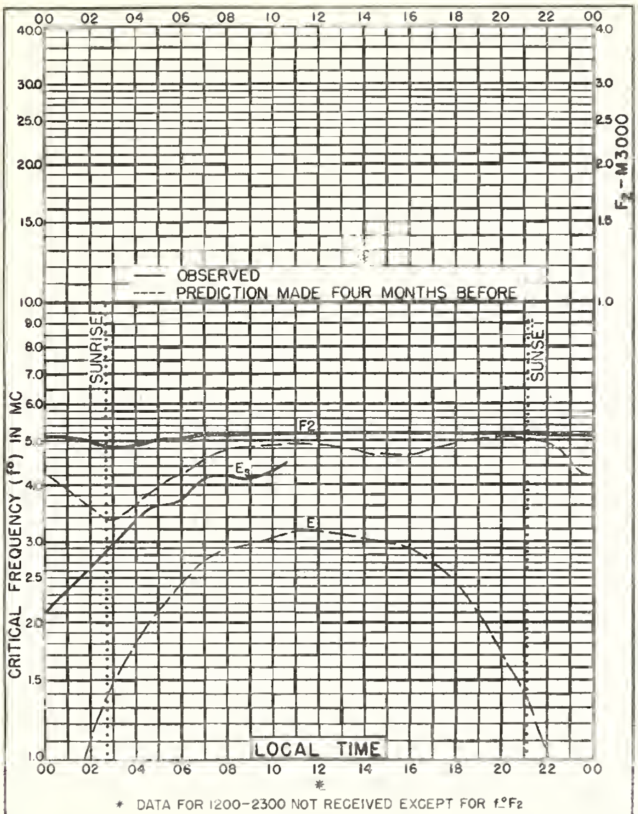


Fig. 58. OSLO, NORWAY
59.9°N, 11.0°E JUNE, 1945

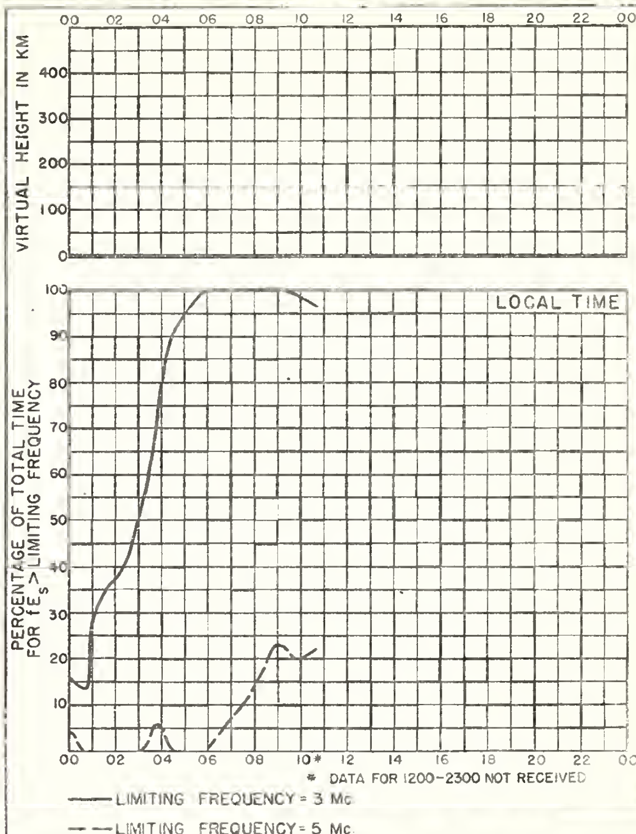


Fig. 59. OSLO, NORWAY JUNE, 1945

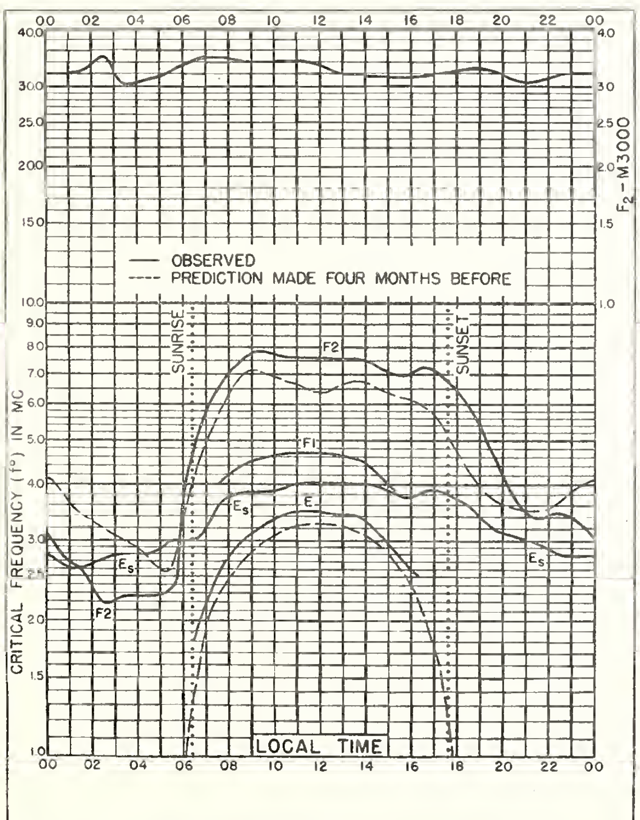


Fig. 60. CAPE YORK, AUSTRALIA
11.0°S, 142.4°E JUNE, 1945

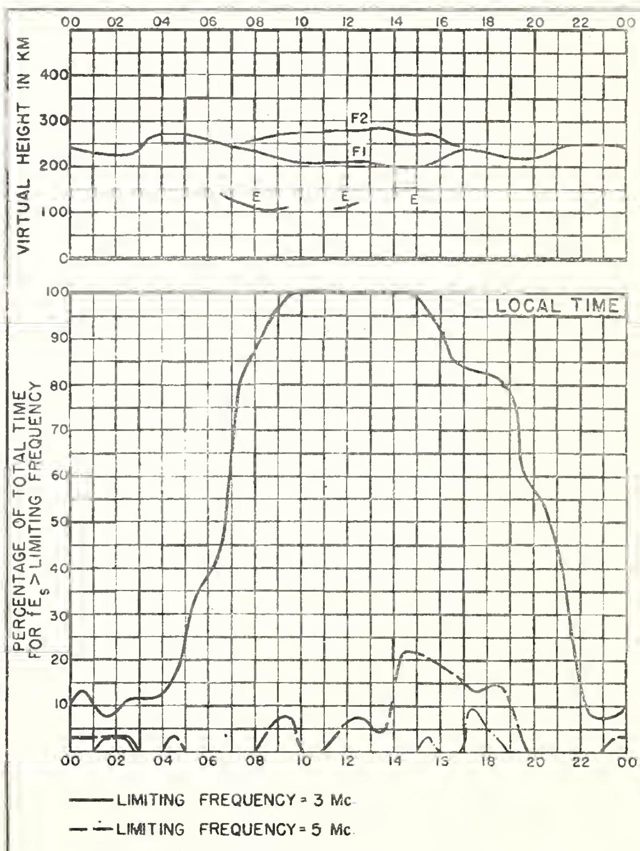


Fig. 61. CAPE YORK, AUSTRALIA JUNE, 1945

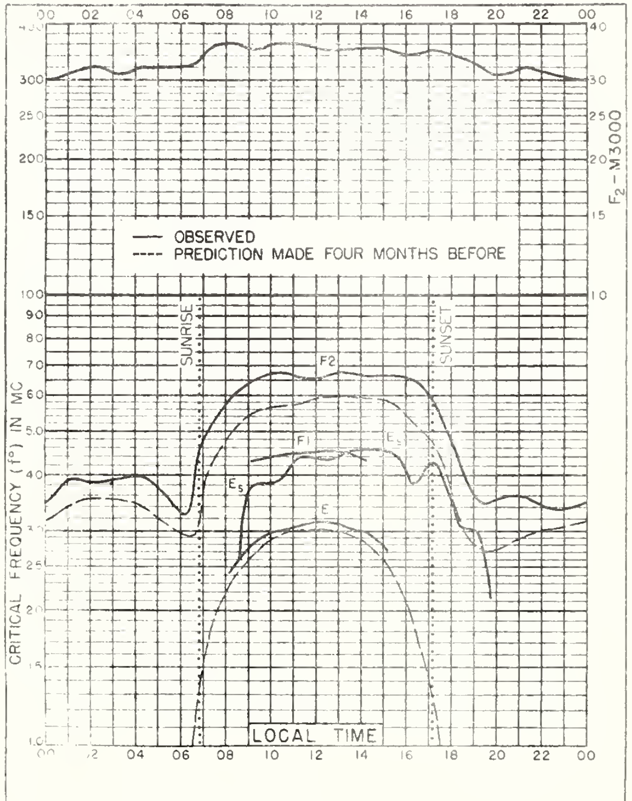


Fig. 62. BRISBANE, AUSTRALIA
27.5°S, 153.0°E JUNE, 1945

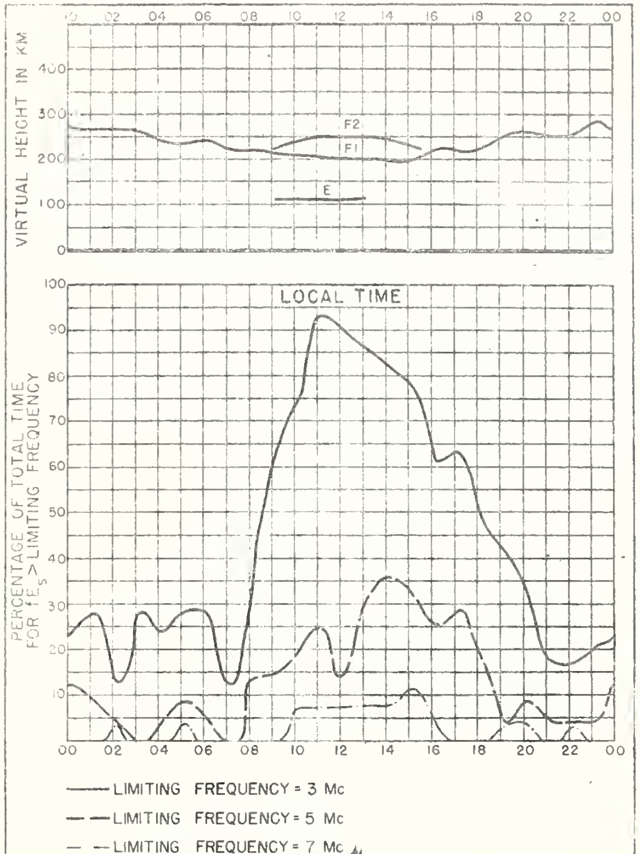


Fig. 63. BRISBANE, AUSTRALIA JUNE, 1945

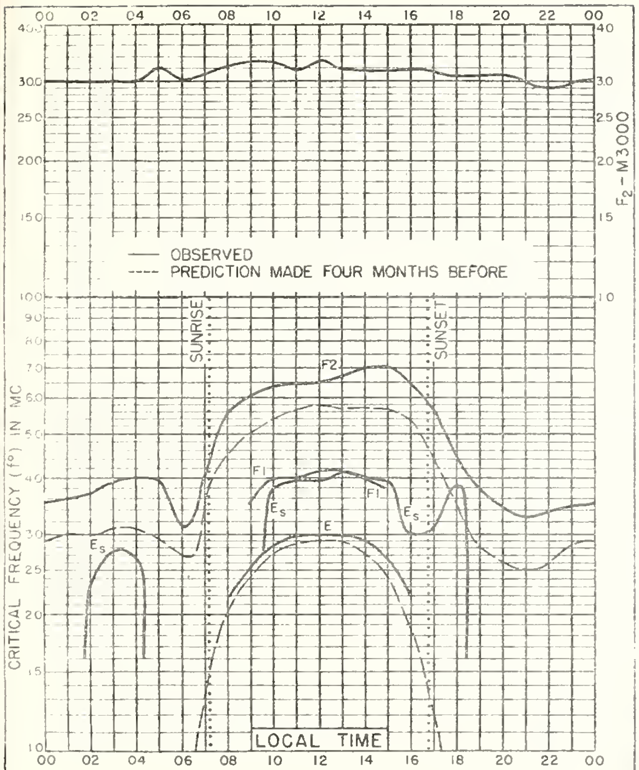


Fig. 64. CANBERRA, AUSTRALIA
35.3°S, 149.0°E JUNE, 1945

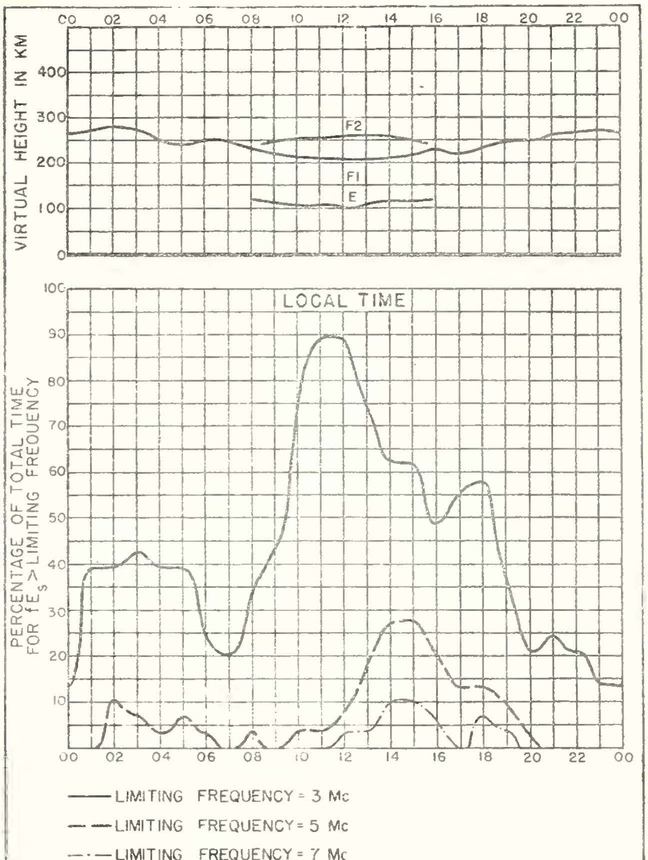
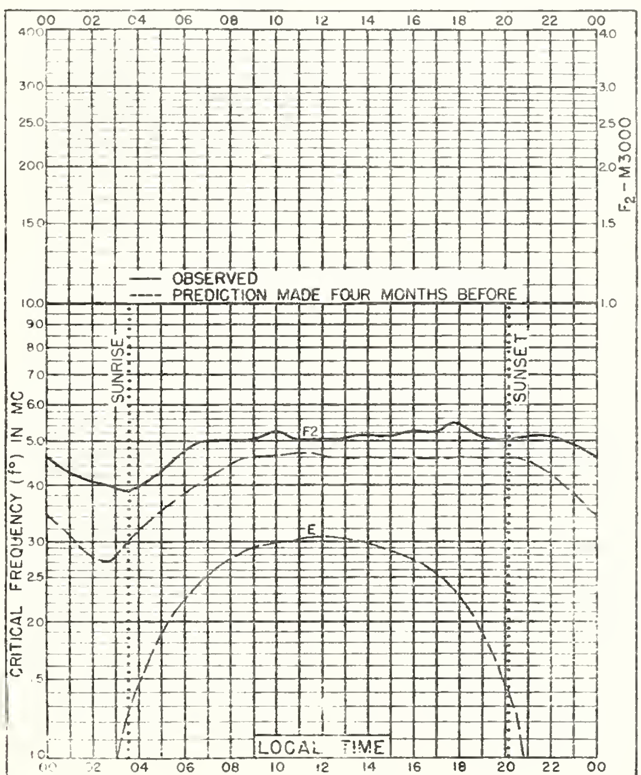


Fig. 65. CANBERRA, AUSTRALIA JUNE, 1945



See footnote on Table 57 of this issue.

Fig. 66. OSLO, NORWAY
59.9°N, 11.0°E MAY, 1945

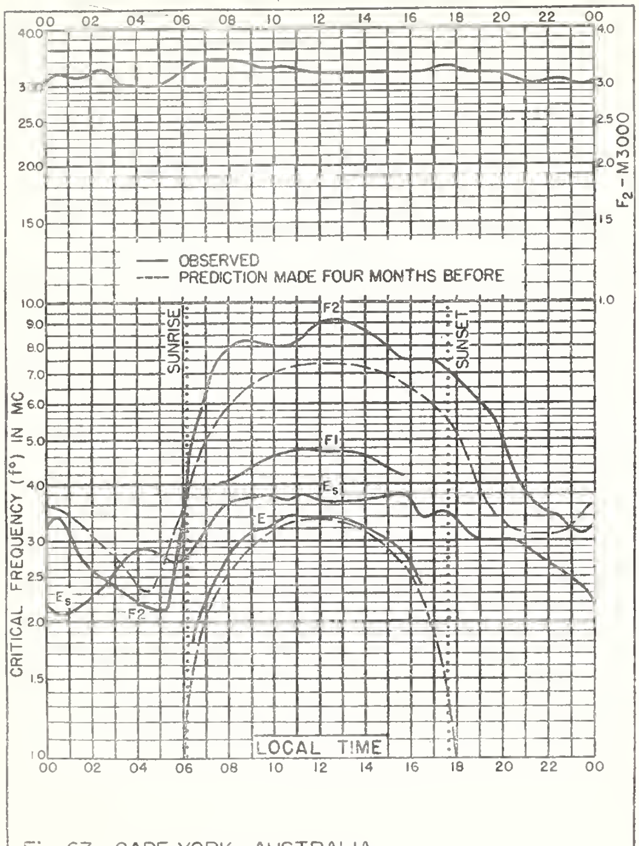


Fig. 67. CAPE YORK, AUSTRALIA
11.0°S, 142.4°E MAY, 1945

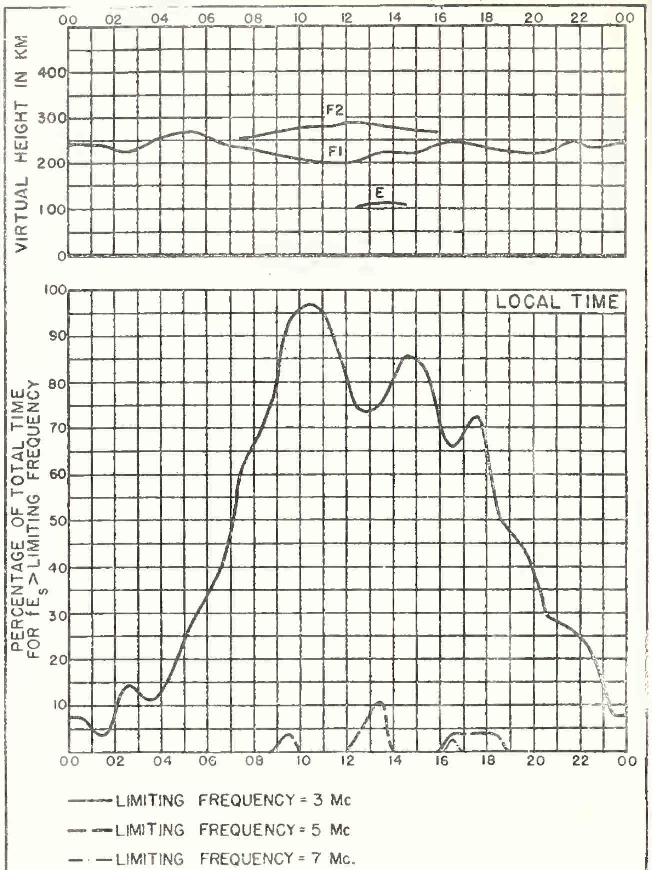
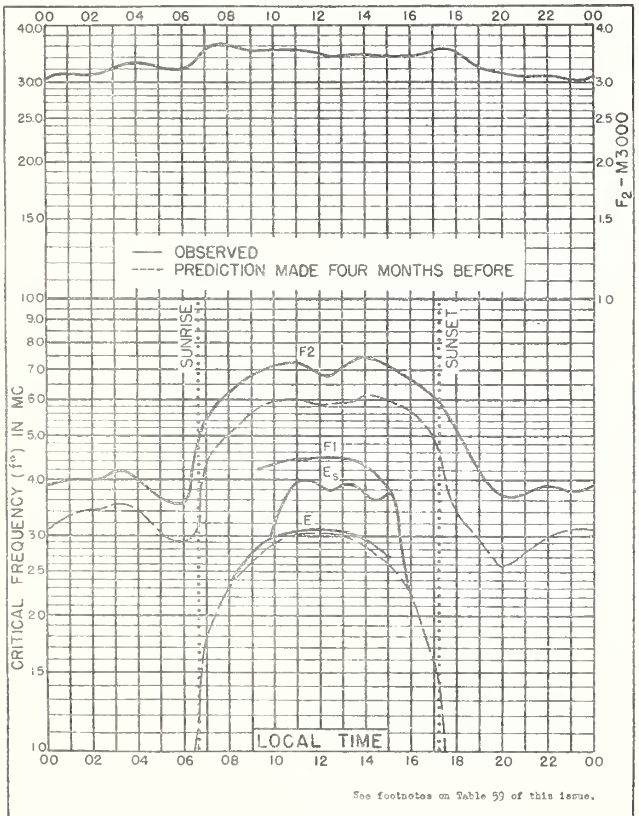


Fig. 68. CAPE YORK, AUSTRALIA MAY, 1945



See footnotes on Table 59 of this issue.

Fig. 69. BRISBANE, AUSTRALIA
27.5°S, 153.0°E MAY, 1945

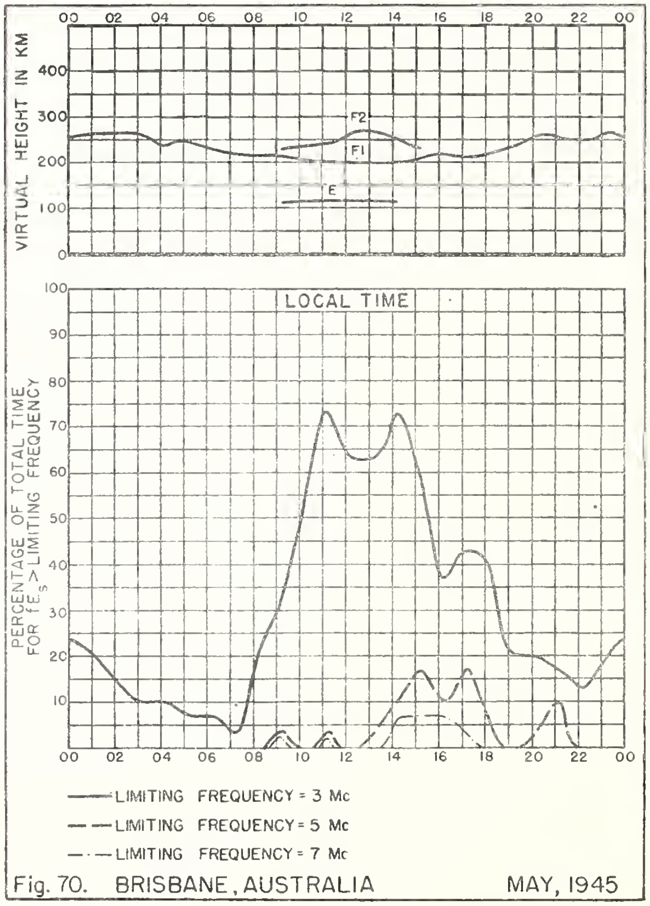


Fig. 70. BRISBANE, AUSTRALIA MAY, 1945

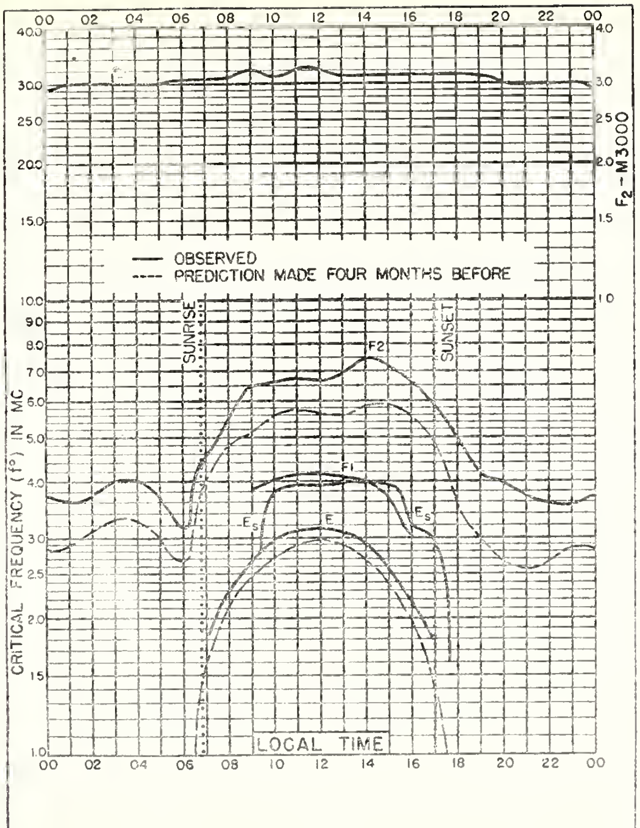


Fig. 71. CANBERRA, AUSTRALIA
35.3°S, 149.0°E MAY, 1945

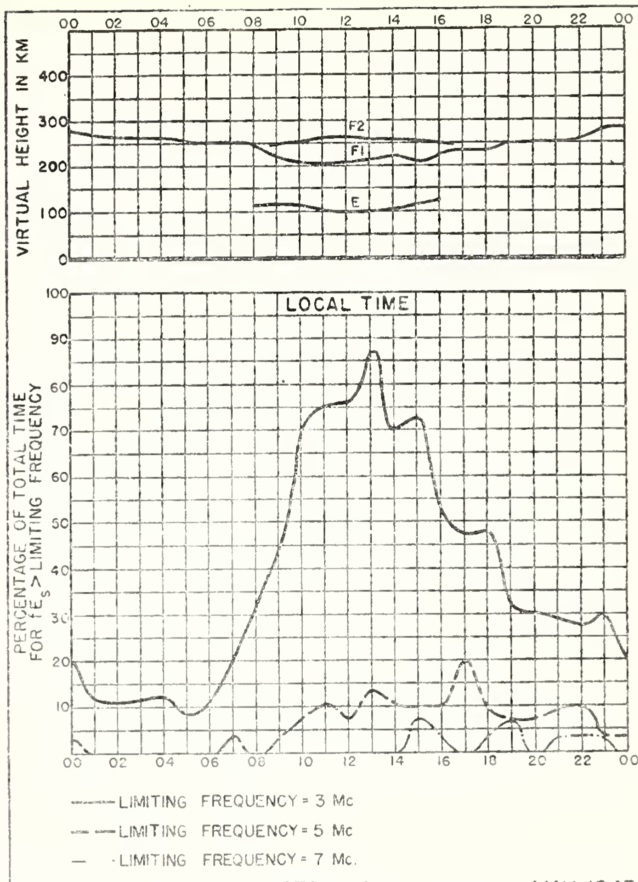


Fig. 72. CANBERRA, AUSTRALIA MAY, 1945

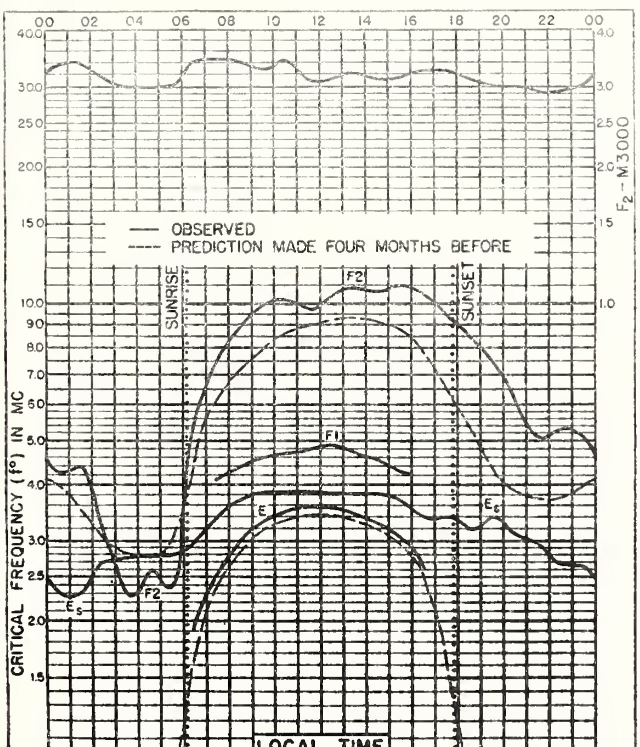


Fig. 73. CAPE YORK, AUSTRALIA
11.0°S, 142.4°E APRIL, 1945

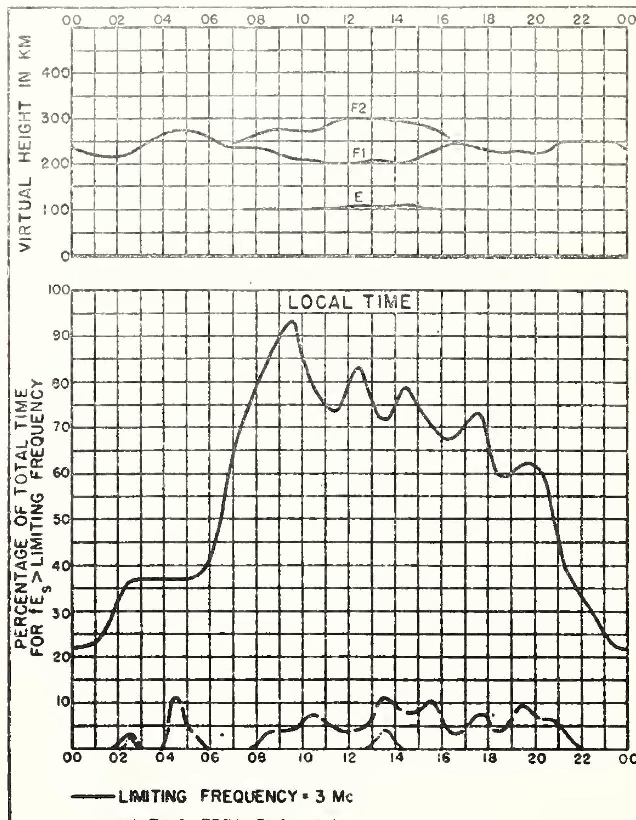


Fig. 74. CAPE YORK, AUSTRALIA APRIL, 1945

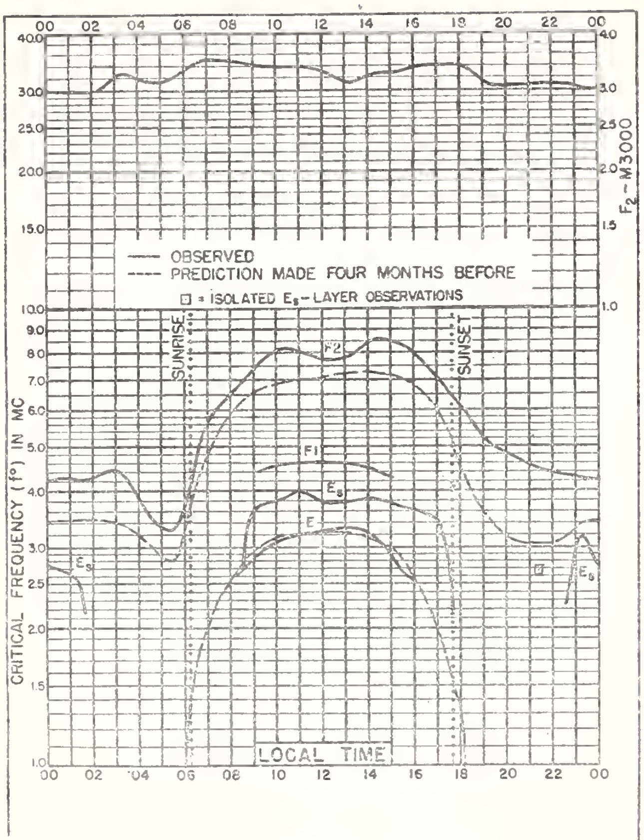


Fig. 75. BRISBANE, AUSTRALIA
27.5°S, 153.0°E
APRIL, 1945

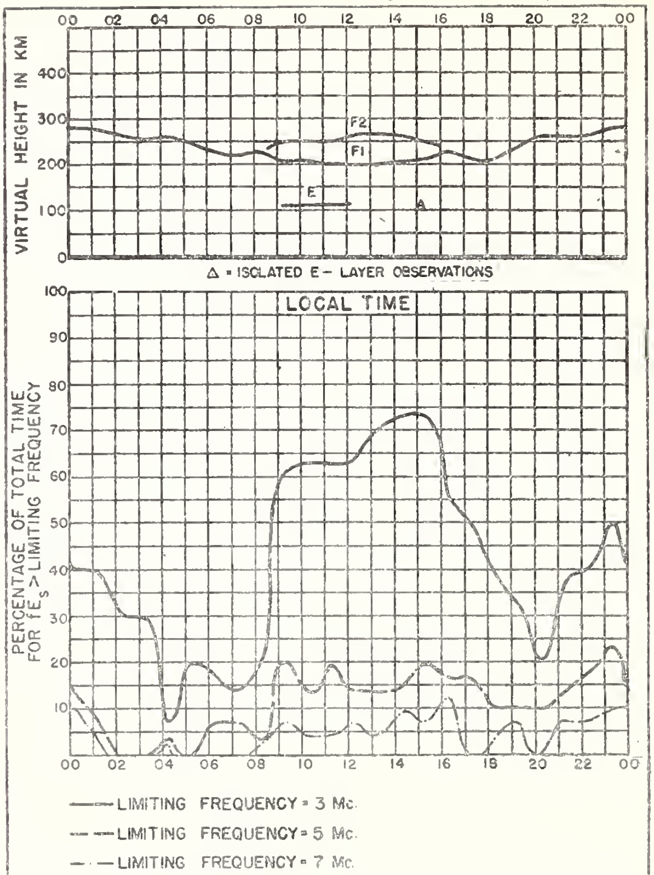


Fig. 76. BRISBANE, AUSTRALIA
APRIL, 1945

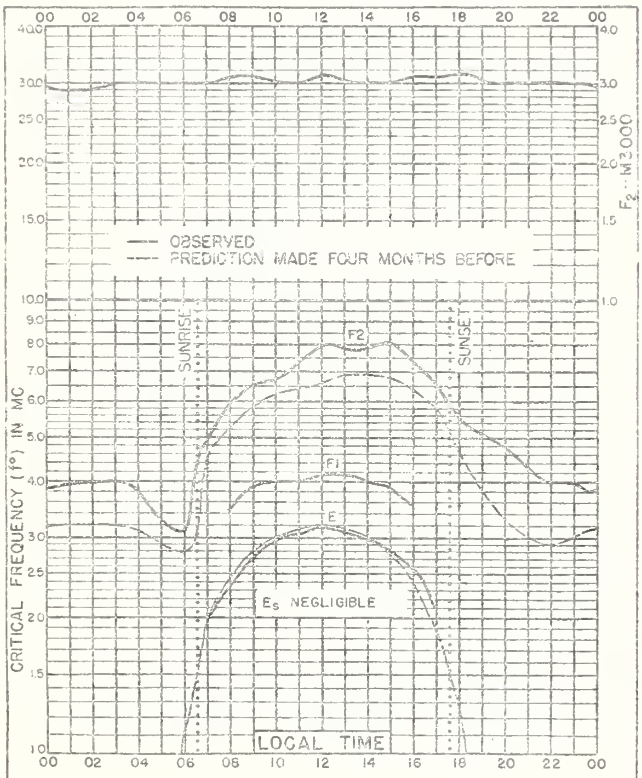


Fig. 77. CANBERRA, AUSTRALIA
35.3°S, 149.0°E
APRIL, 1945

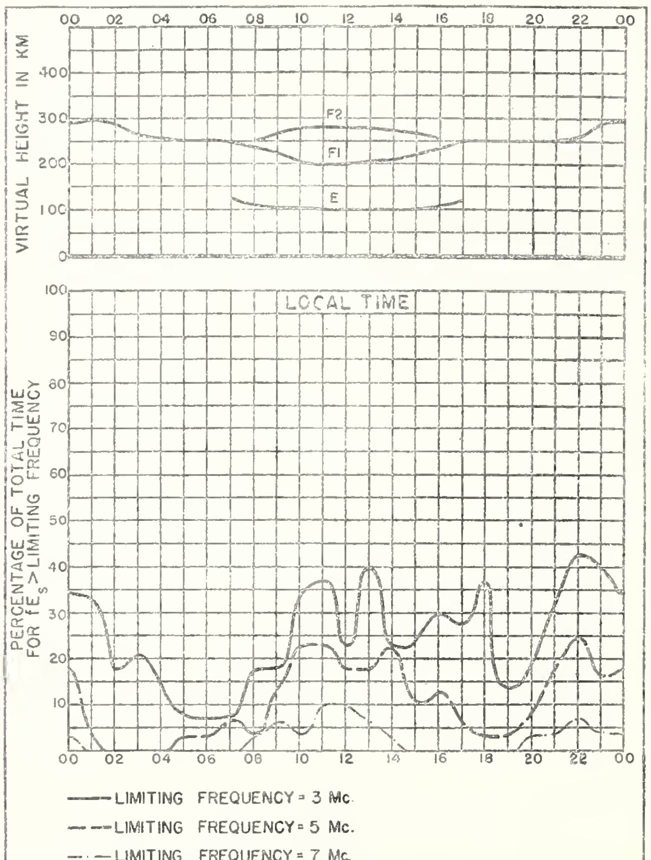


Fig. 78. CANBERRA, AUSTRALIA
APRIL, 1945

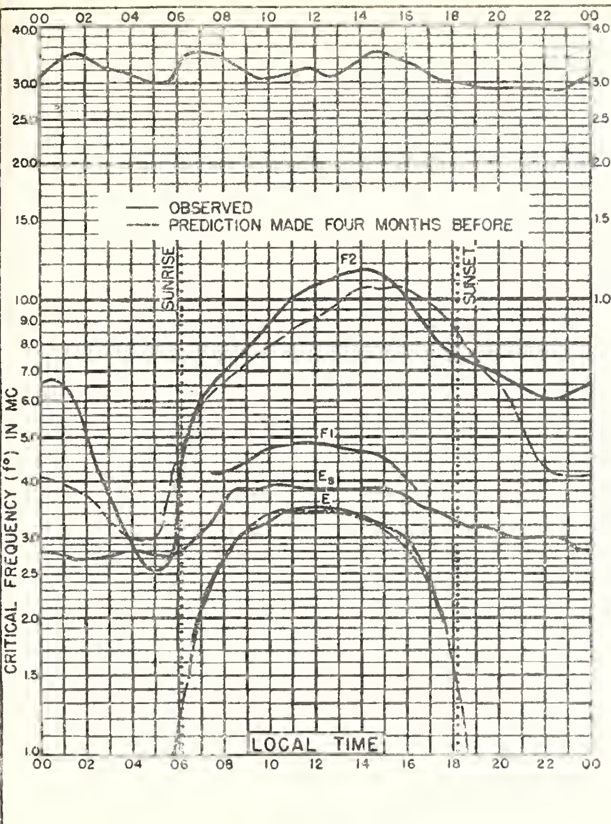


Fig. 79. CAPE YORK, AUSTRALIA
11.0°S, 142.4°E MARCH, 1945

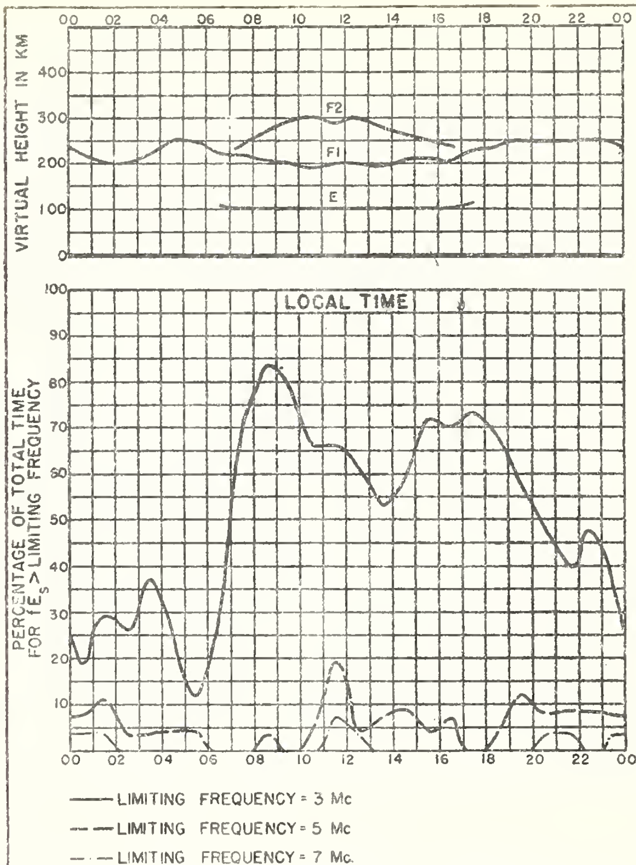


Fig. 80. CAPE YORK, AUSTRALIA MARCH, 1945

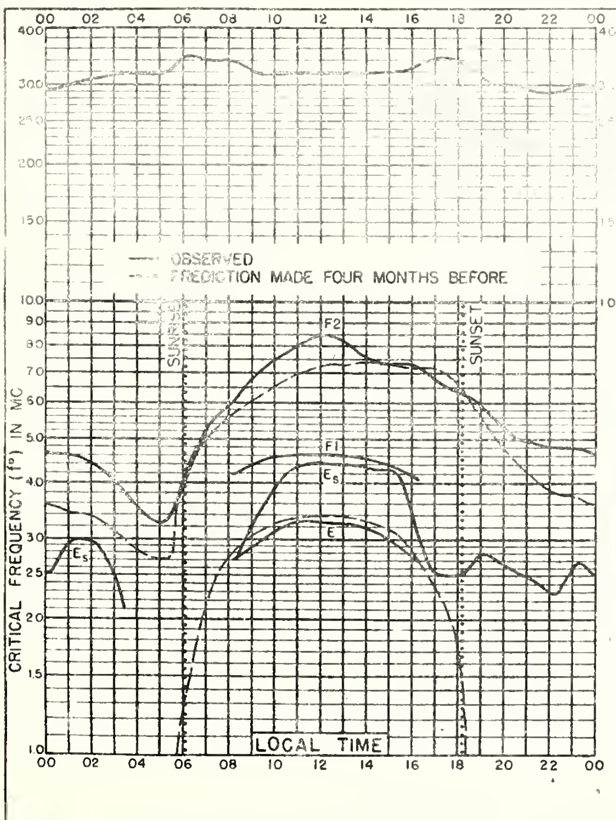


Fig. 81. BRISBANE, AUSTRALIA
27.5°S, 153.0°E MARCH, 1945

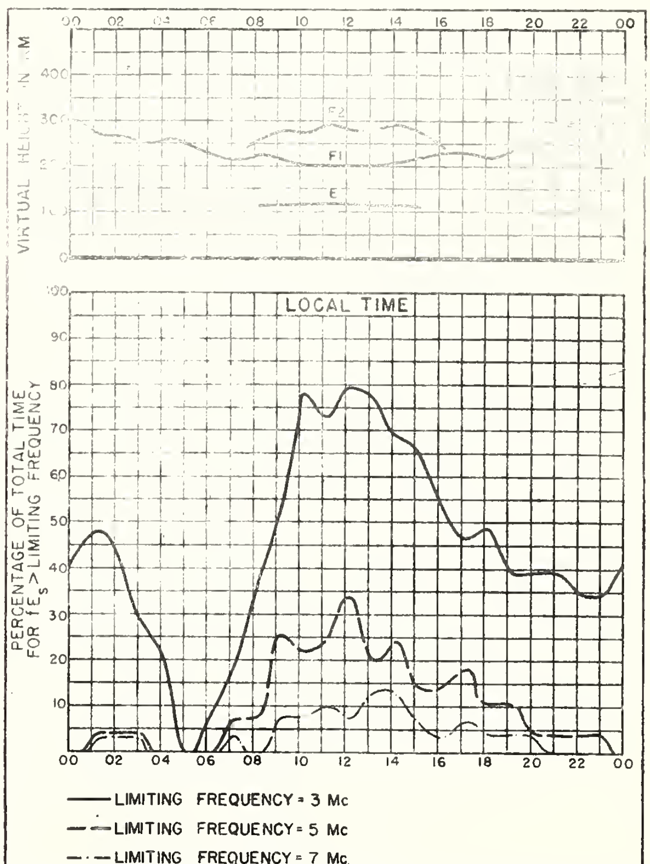


Fig. 82. BRISBANE, AUSTRALIA MARCH, 1945

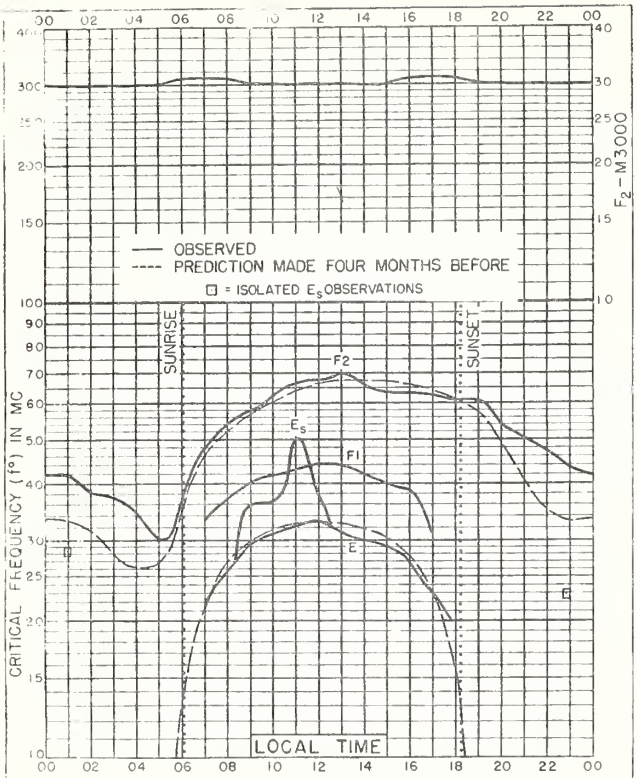


Fig. 83. CANBERRA, AUSTRALIA
35.3°S, 149.0°E MARCH, 1945

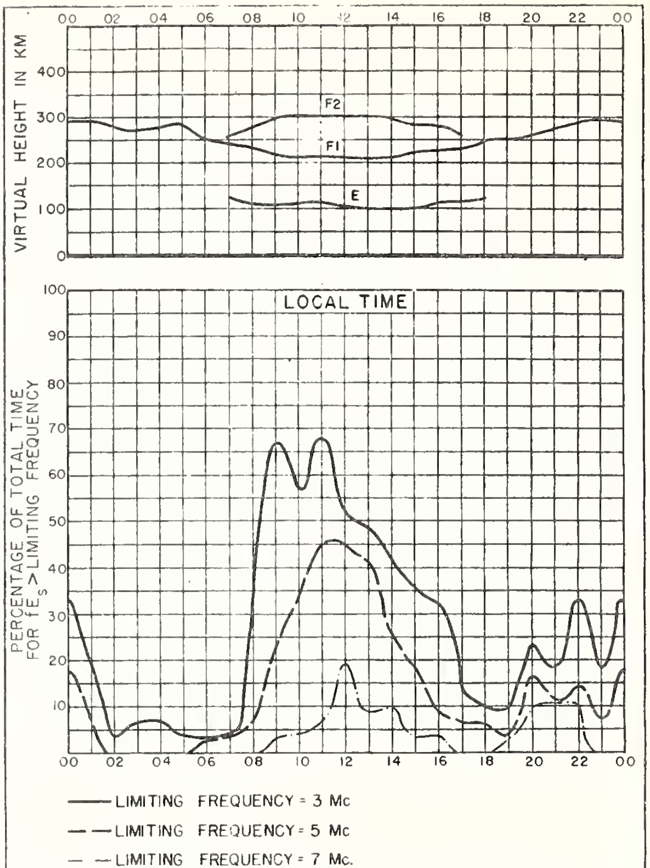
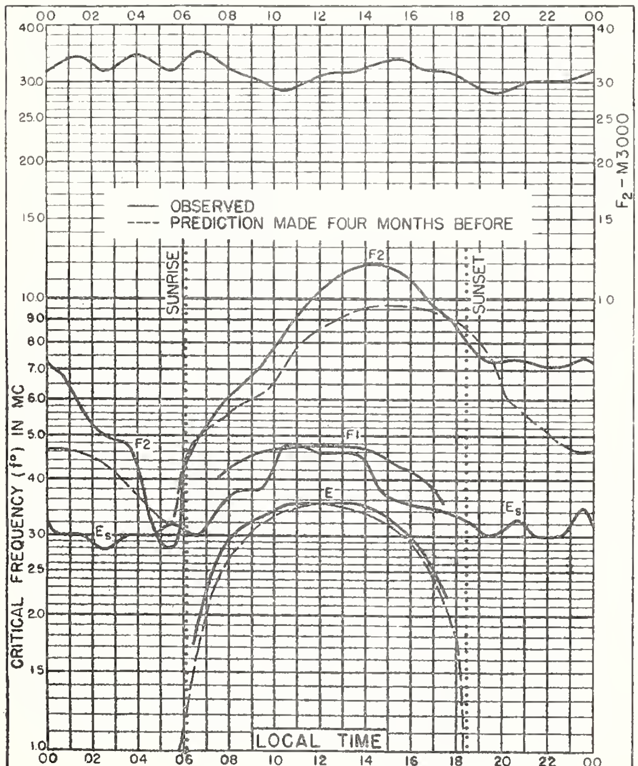


Fig. 84. CANBERRA, AUSTRALIA MARCH, 1945



See footnote on Table 67 of this issue.

Fig. 85. CAPE YORK, AUSTRALIA
11.0°S, 142.4°E FEBRUARY, 1945

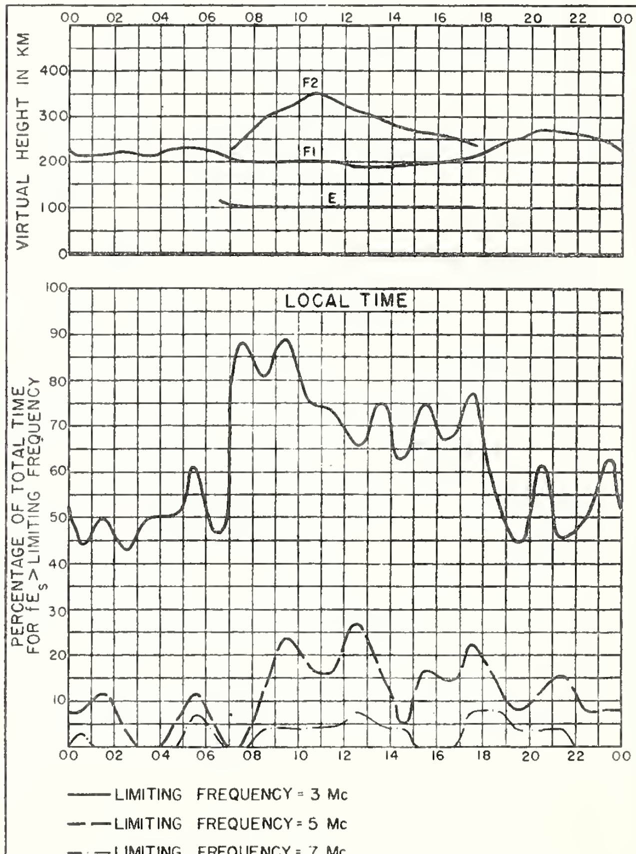


Fig. 86. CAPE YORK, AUSTRALIA FEBRUARY, 1945

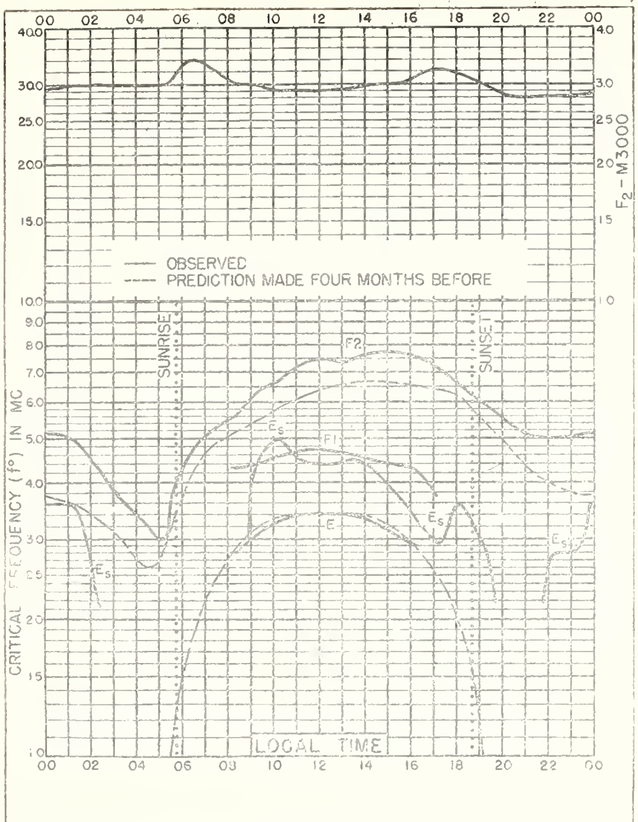


Fig. 87. BRISBANE, AUSTRALIA
27.5°S, 153.0°E FEBRUARY, 1945

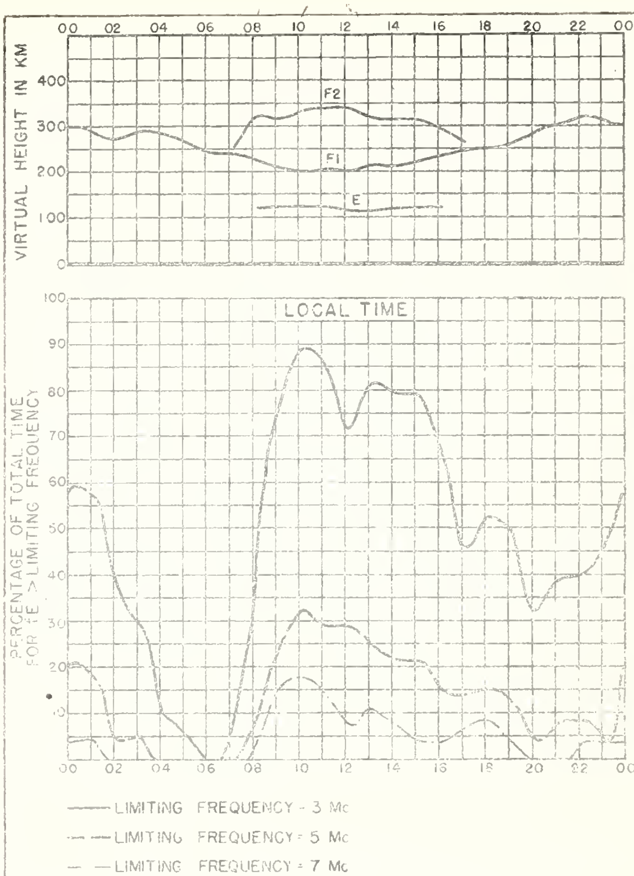


Fig. 88 BRISBANE, AUSTRALIA FEBRUARY, 1945

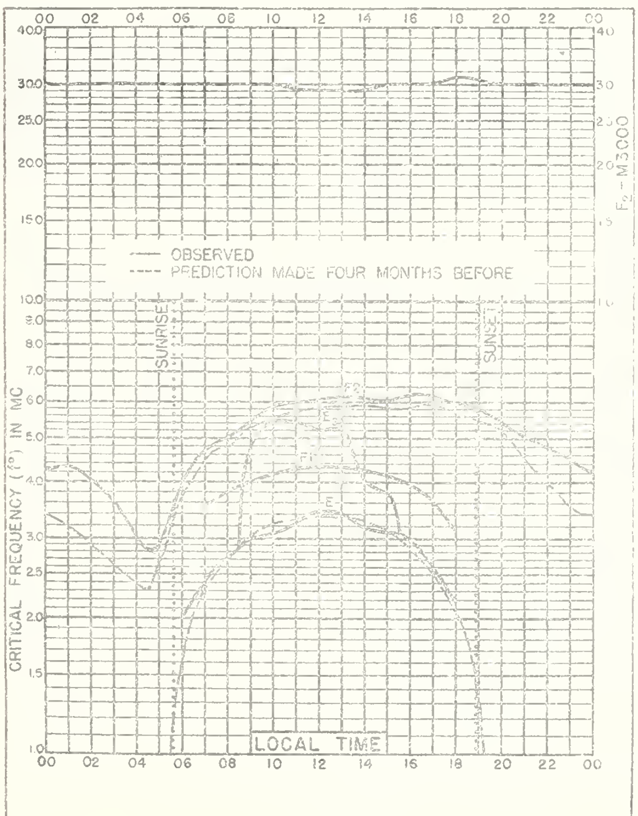


Fig. 89. CANBERRA, AUSTRALIA
35.3°S, 149.0°E FEBRUARY, 1945

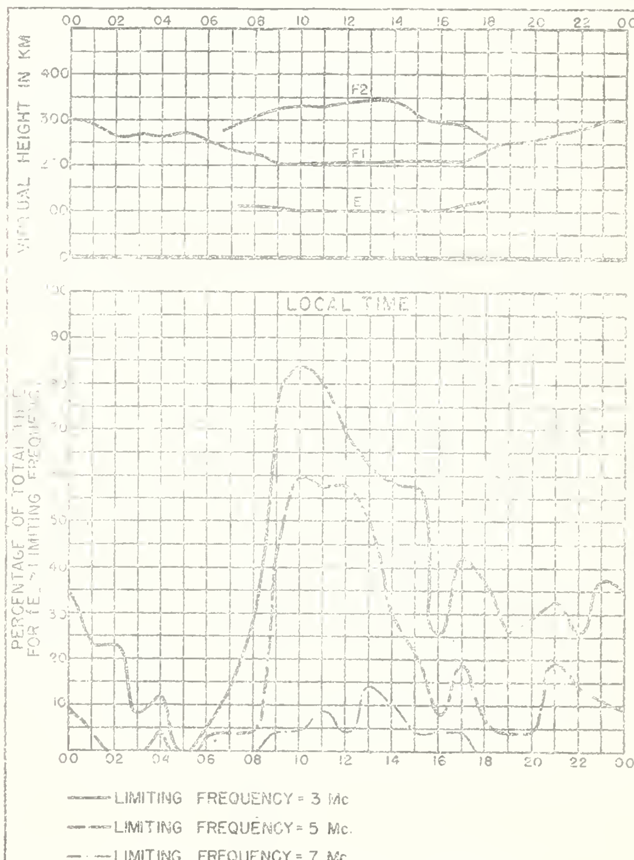
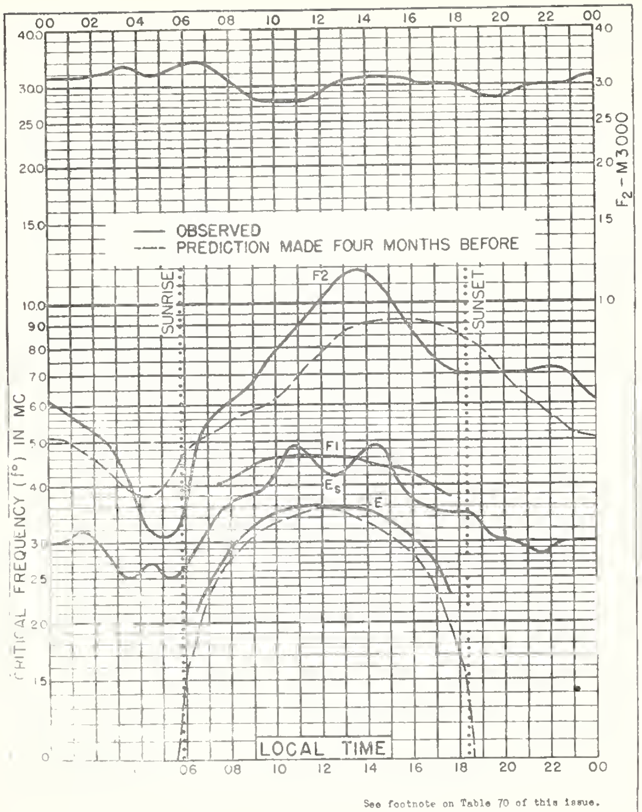


Fig. 90. CANBERRA, AUSTRALIA FEBRUARY, 1945



See footnote on Table 70 of this issue.

Fig. 91. CAPE YORK, AUSTRALIA
11.0°S, 142.4°E JANUARY, 1945

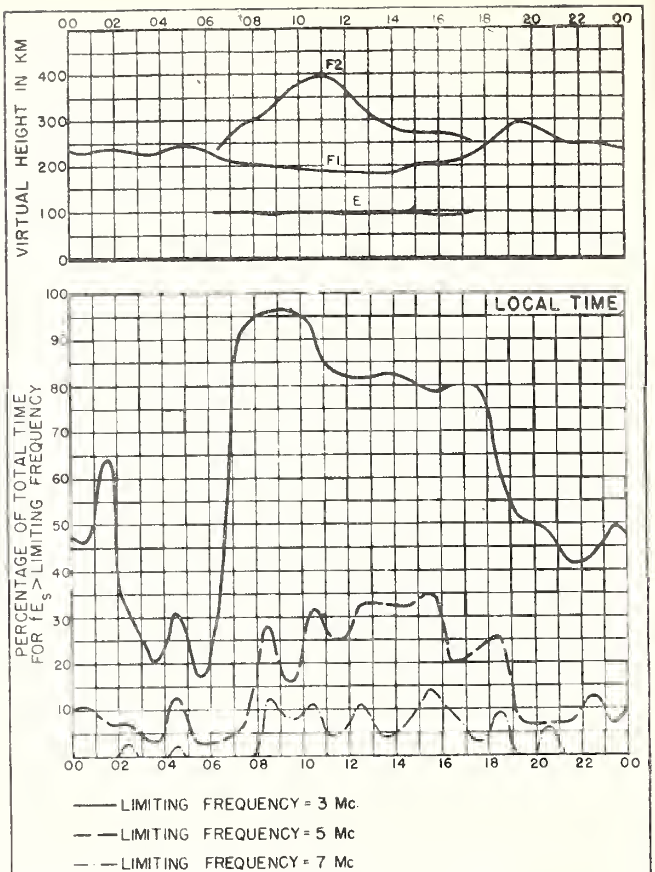


Fig. 92. CAPE YORK, AUSTRALIA JANUARY, 1945

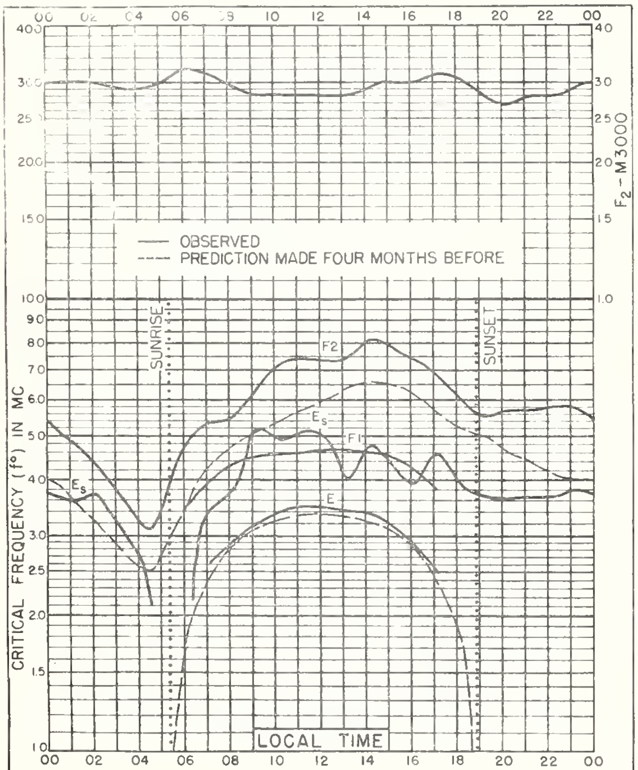


Fig. 93. BRISBANE, AUSTRALIA
27.5°S, 153.0°E JANUARY, 1945

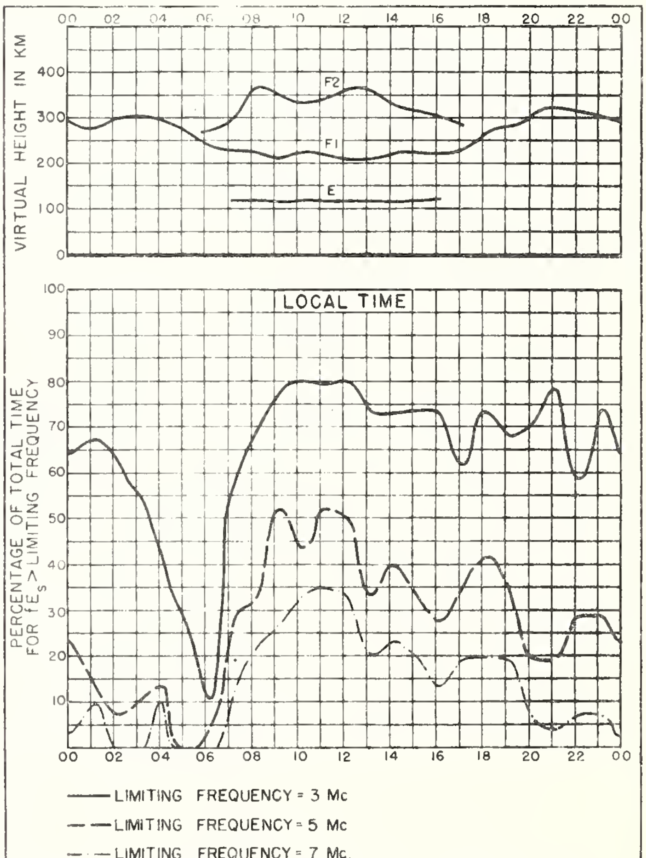


Fig. 94. BRISBANE, AUSTRALIA JANUARY, 1945

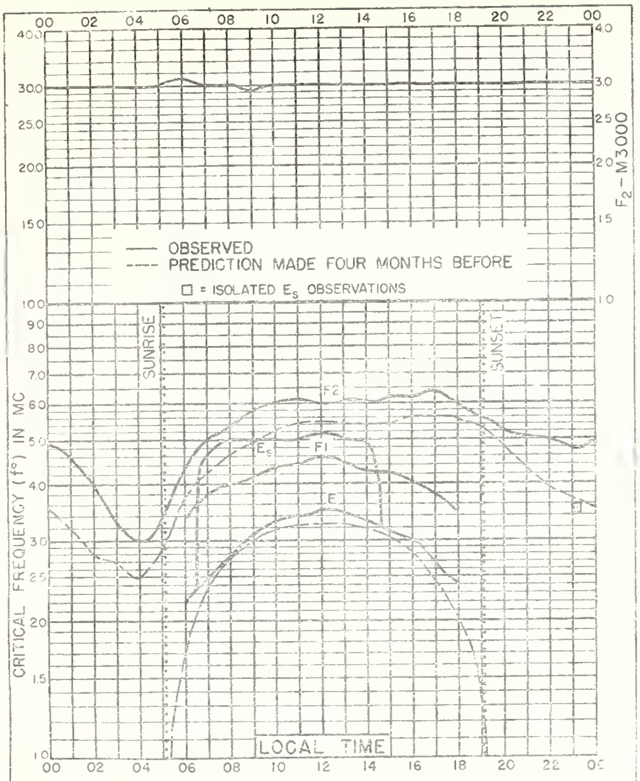


Fig. 95. CANBERRA, AUSTRALIA
35.3°S, 149.0°E JANUARY, 1945

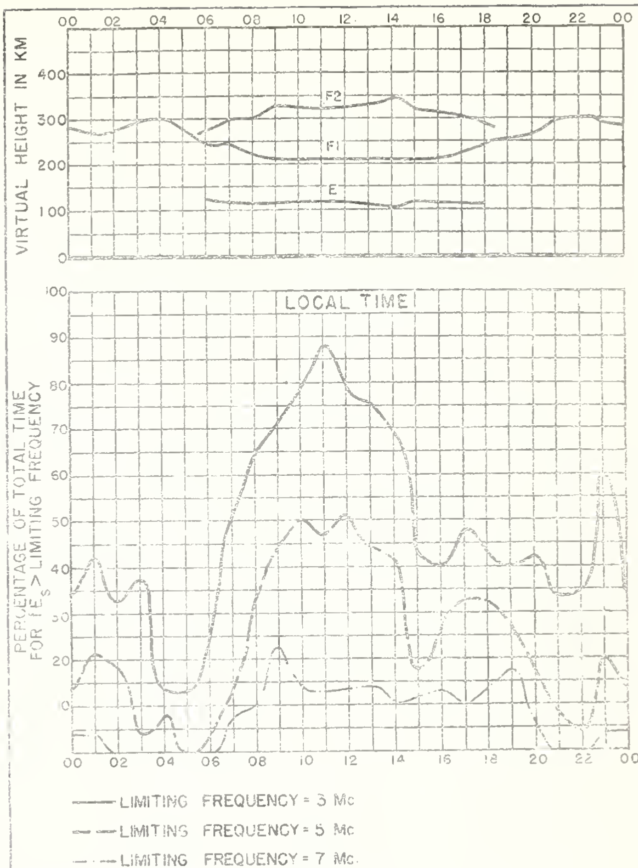


Fig. 96. CANBERRA, AUSTRALIA JANUARY, 1945

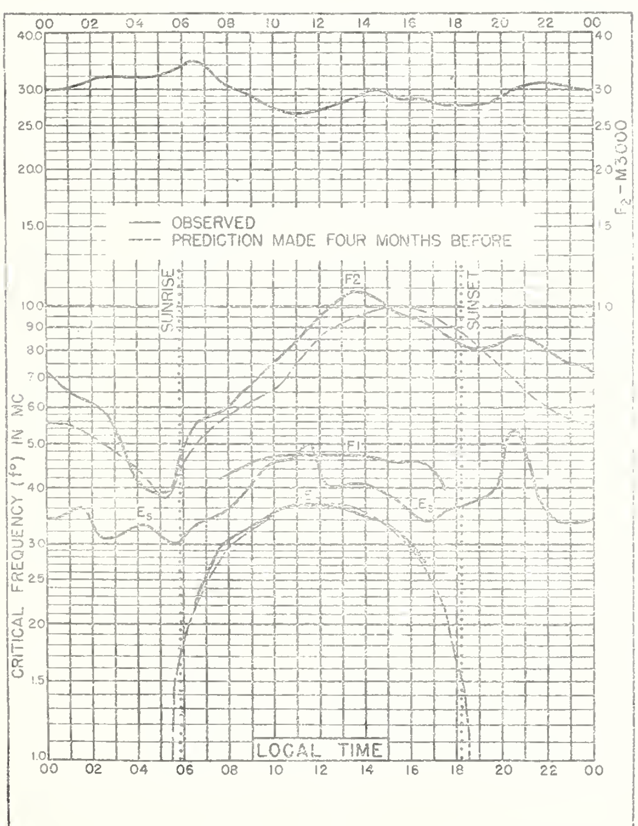


Fig. 97. CAPE YORK, AUSTRALIA
11.0°S, 142.4°E DECEMBER, 1944

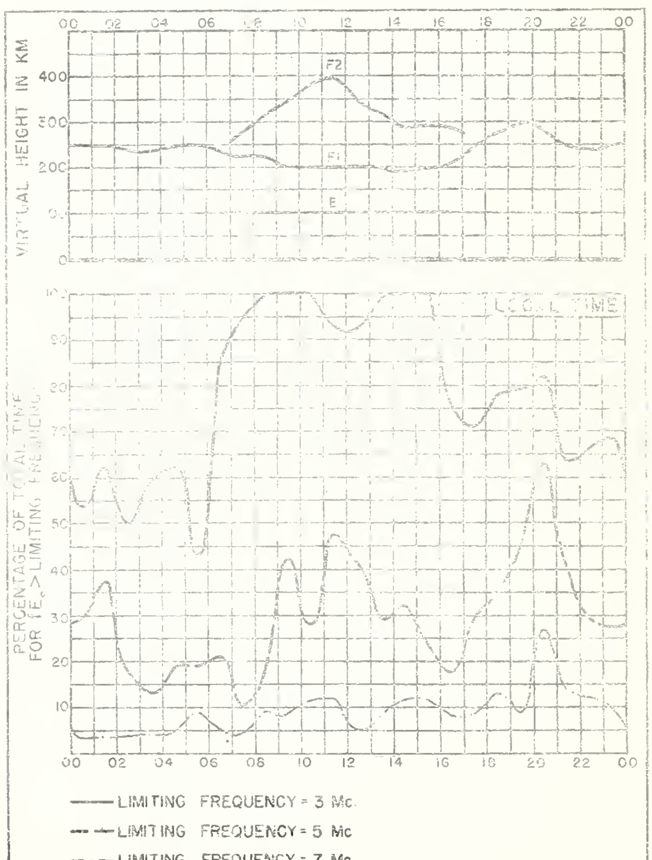


Fig. 98. CAPE YORK, AUSTRALIA DECEMBER, 1944

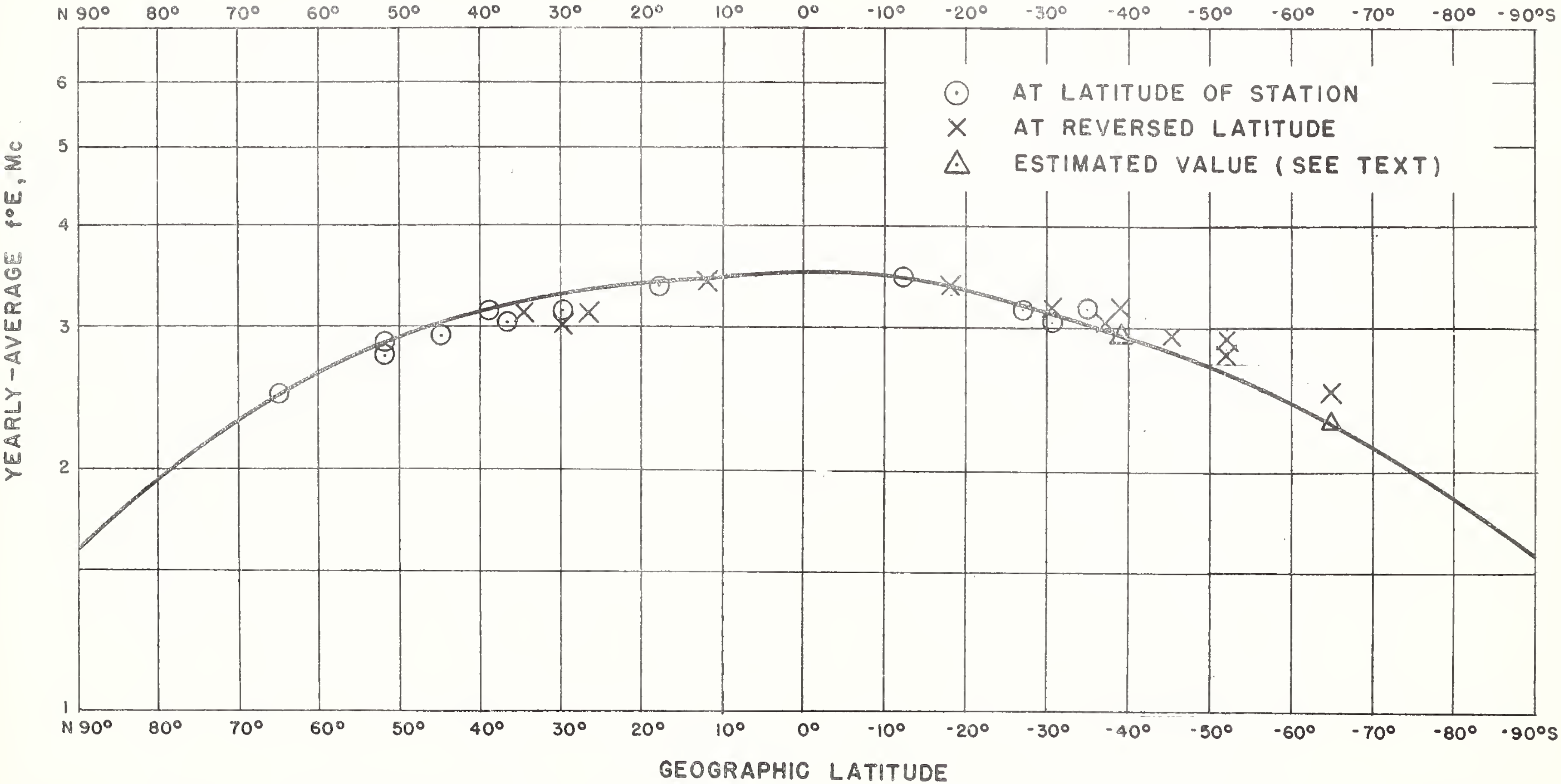


Fig. 99. VARIATION OF f°E, AT SUNSPOT NUMBER=0, WITH LATITUDE, 1200 LOCAL TIME.

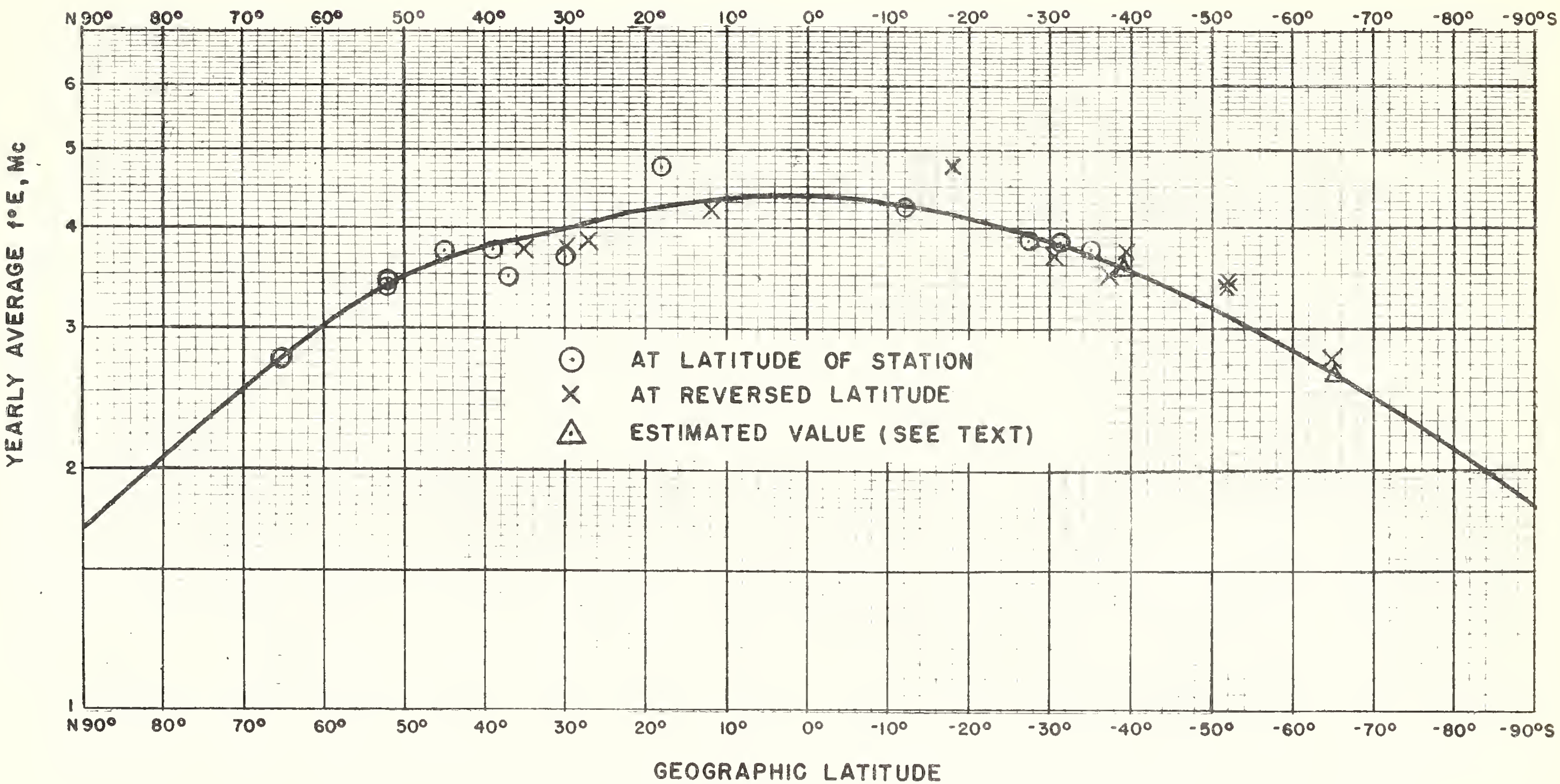


Fig. 100. VARIATION OF f°E, AT SUNSPOT NUMBER = 100, WITH LATITUDE, 1200 LOCAL TIME.

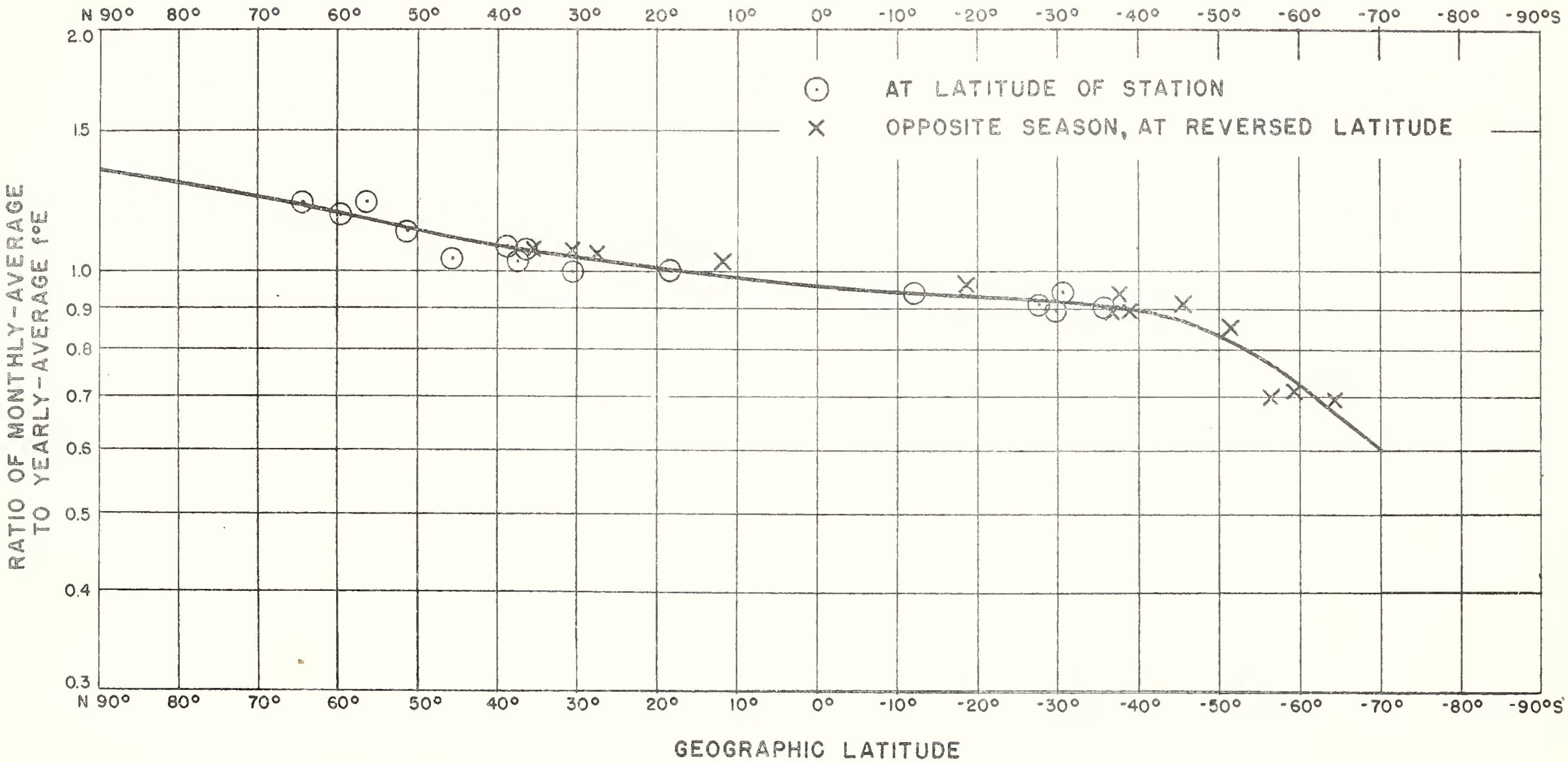


Fig. 101. VARIATION OF RATIO OF MONTHLY-AVERAGE TO YEARLY-AVERAGE f°E, WITH LATITUDE, 1200 LOCAL TIME, JUNE.

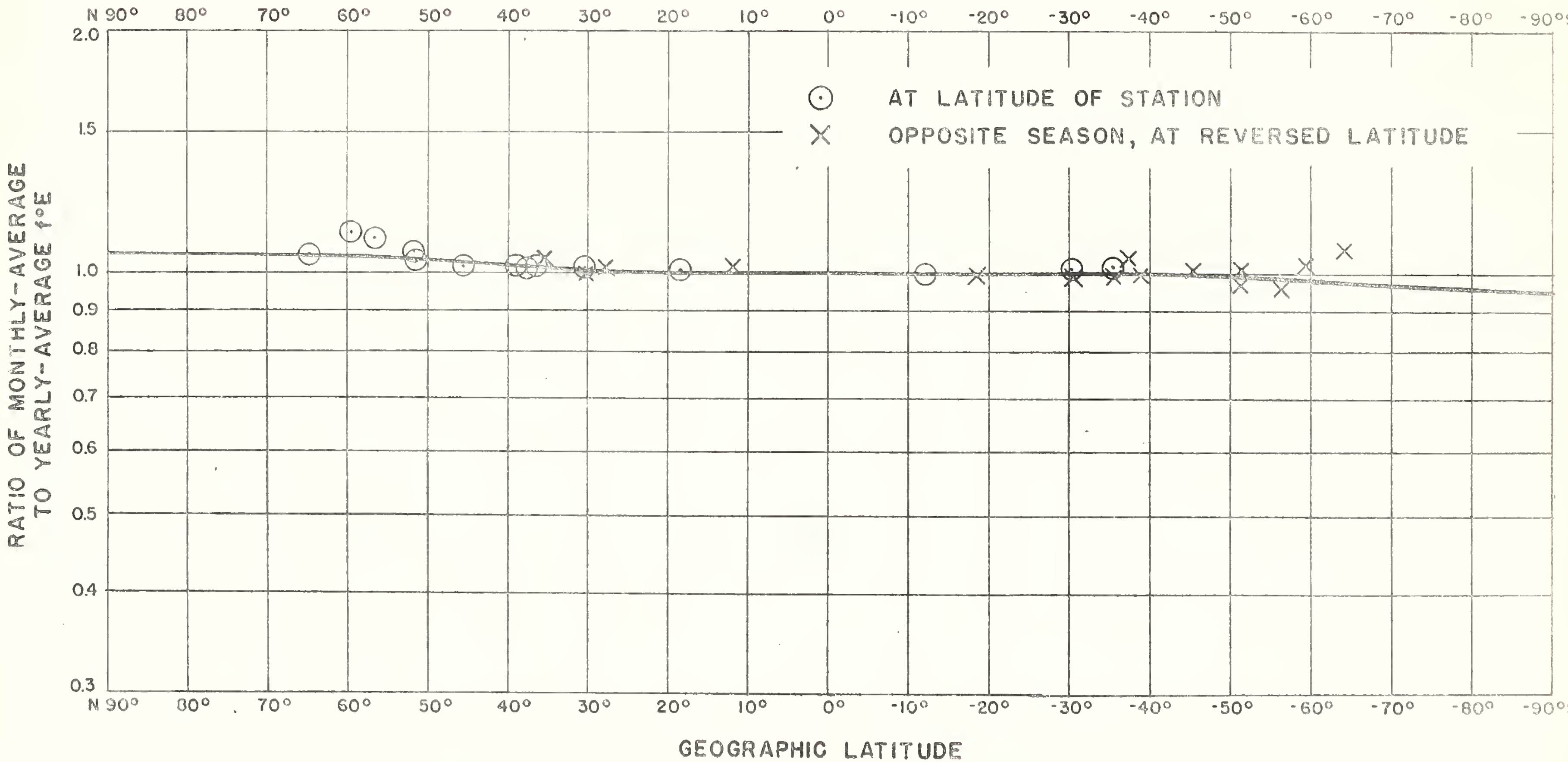


Fig. 102. VARIATION OF RATIO OF MONTHLY-AVERAGE TO YEARLY-AVERAGE f°E, WITH LATITUDE, 1200 LOCAL TIME, SEPTEMBER.

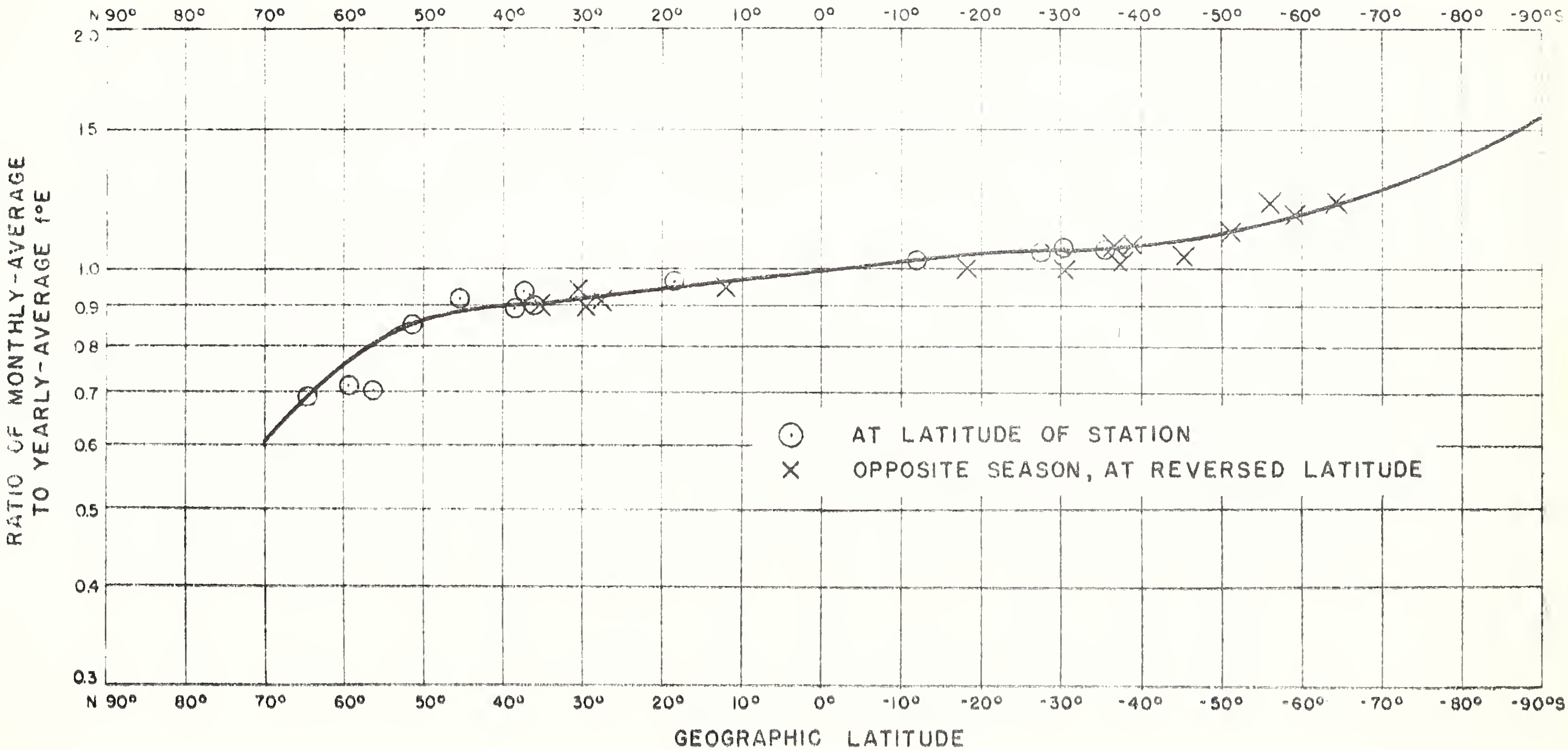


Fig. 103. VARIATION OF RATIO OF MONTHLY-AVERAGE TO YEARLY-AVERAGE f°E, WITH LATITUDE, 1200 LOCAL TIME, DECEMBER.

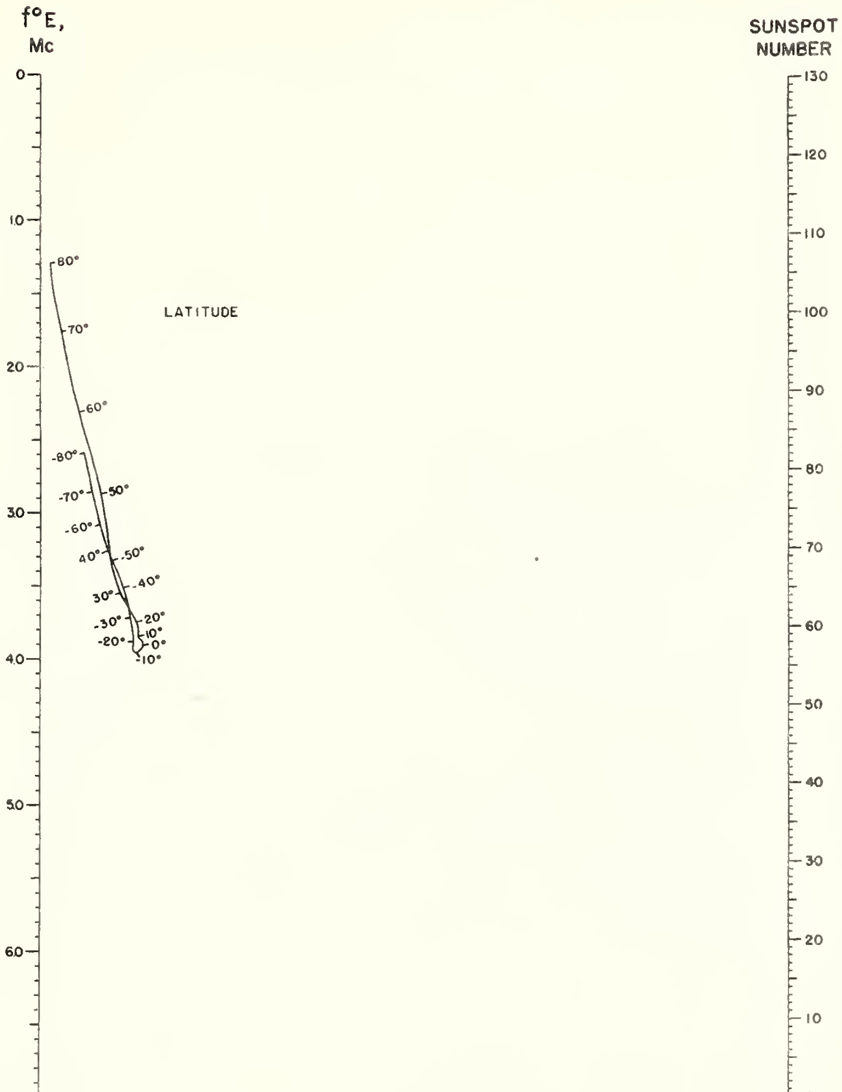


Fig. 104. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, JANUARY.

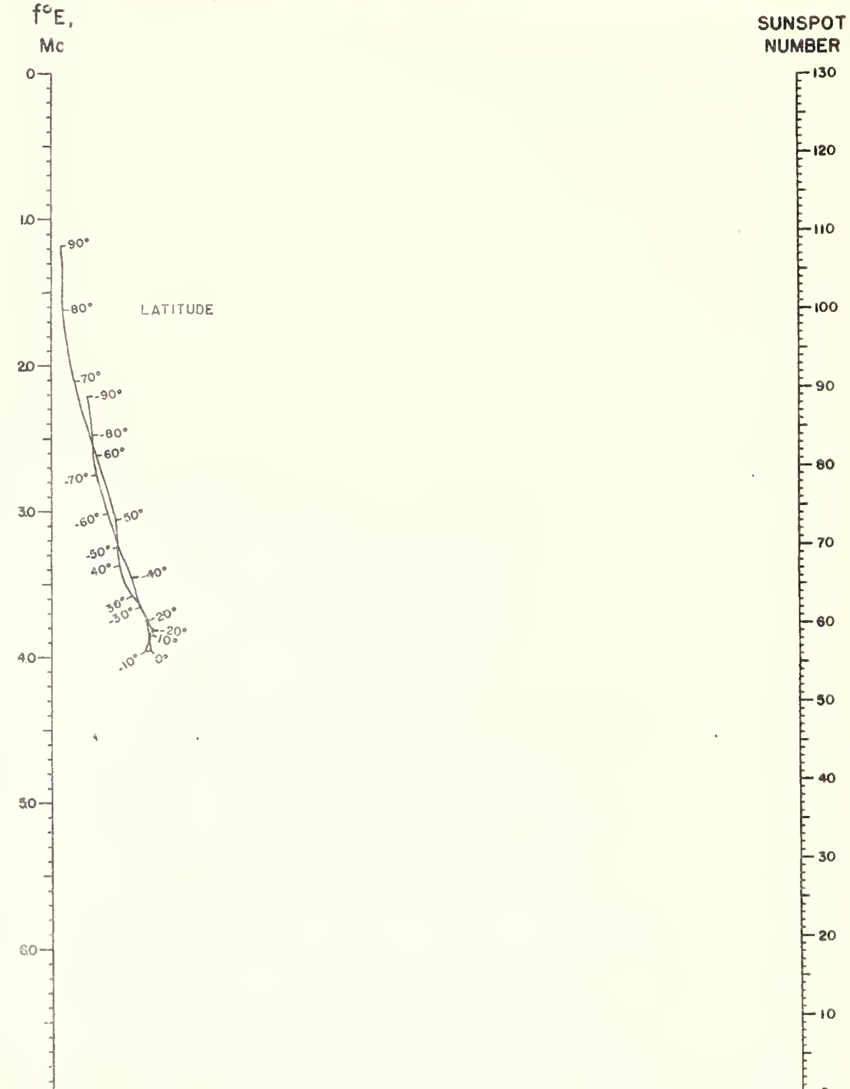


Fig. 105. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, FEBRUARY.

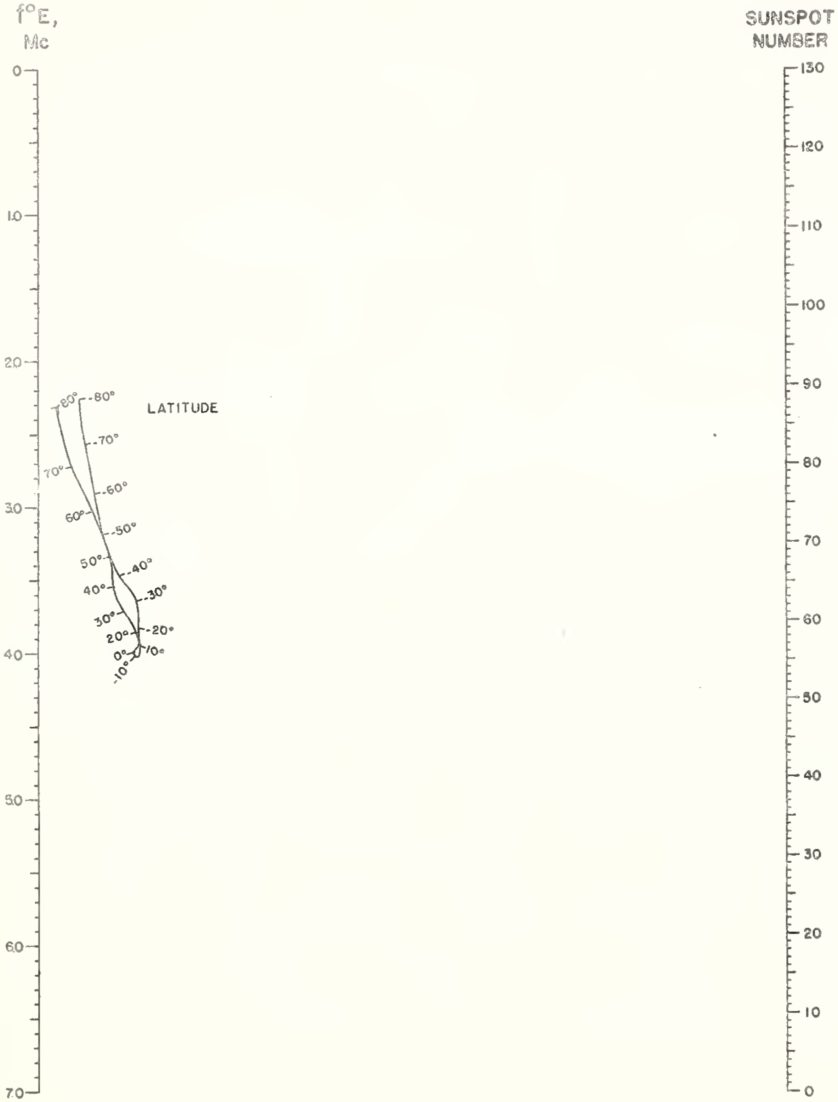


Fig. 106. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, MARCH.

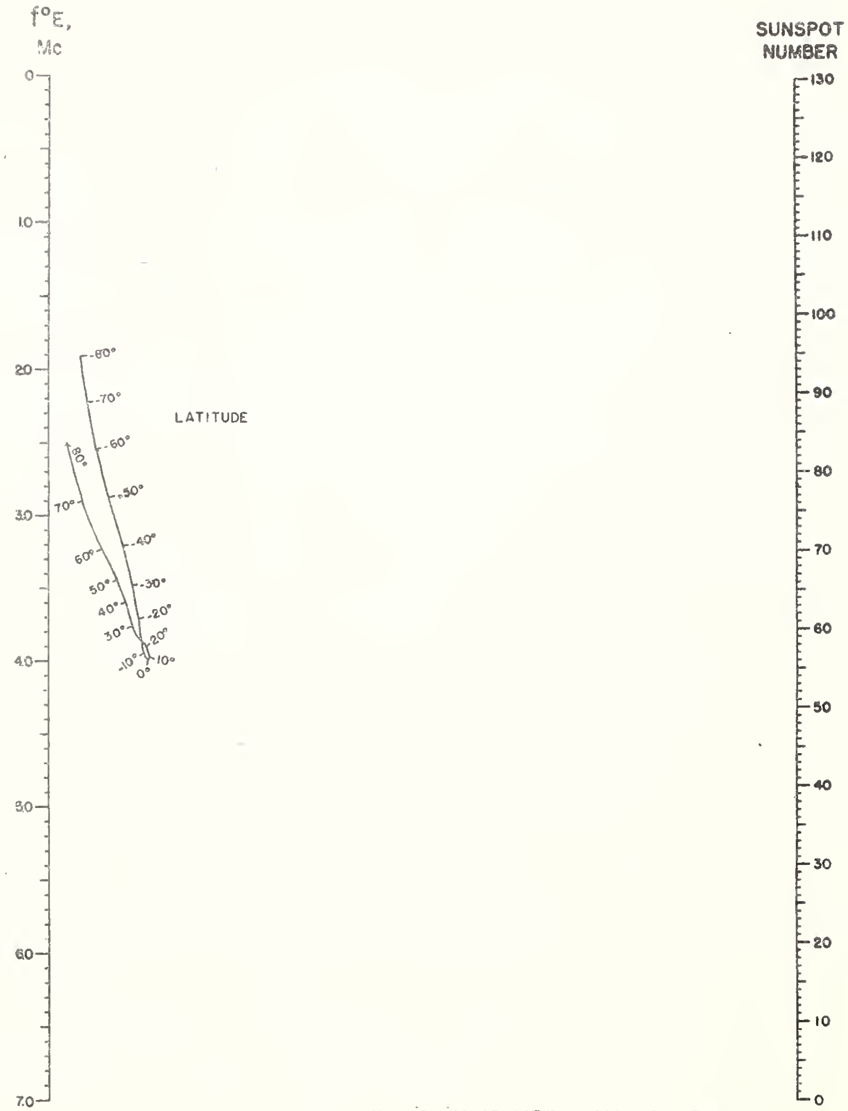


Fig. 107. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, APRIL.

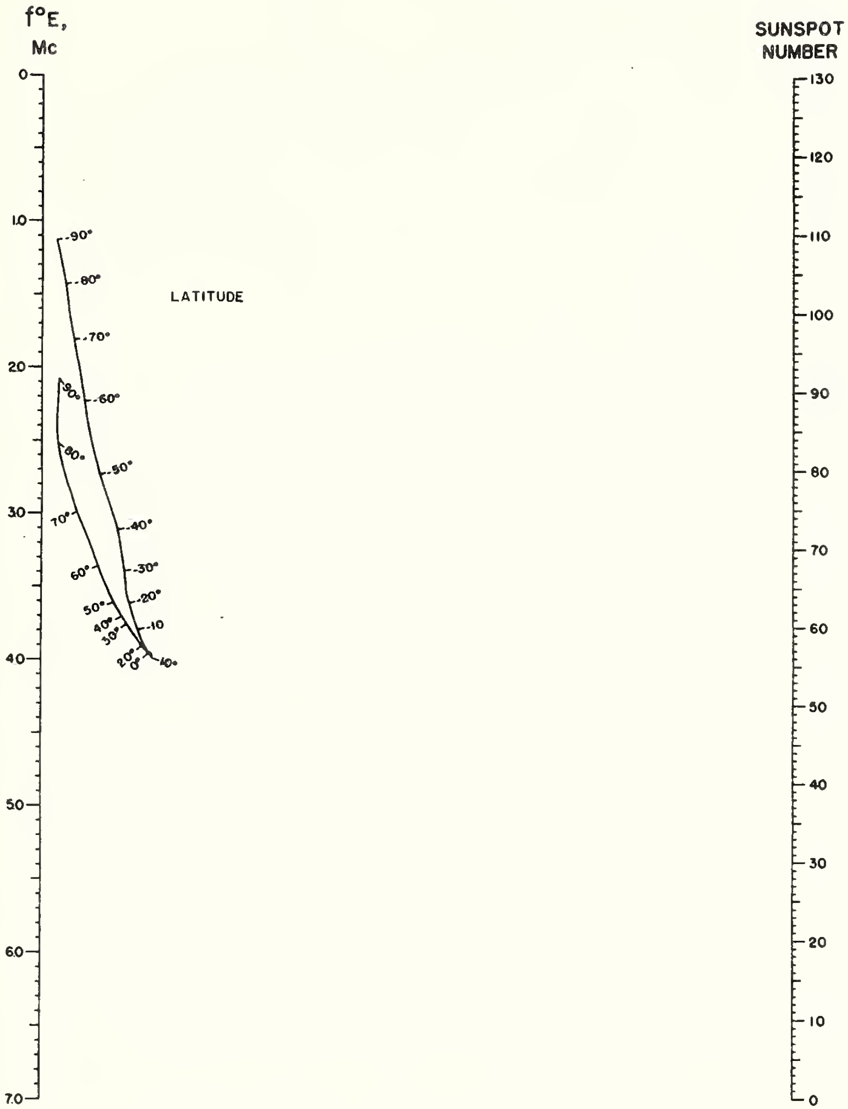


Fig. 108. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, MAY.

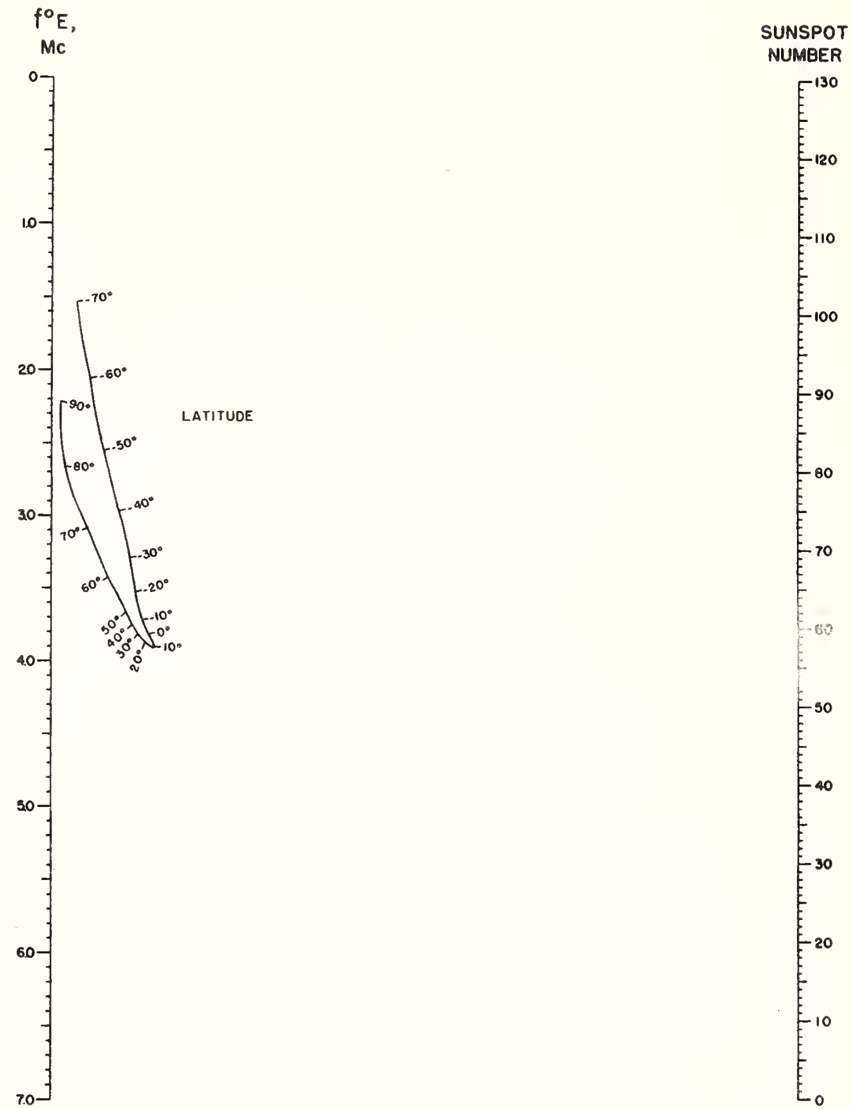


Fig. 109. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, JUNE.

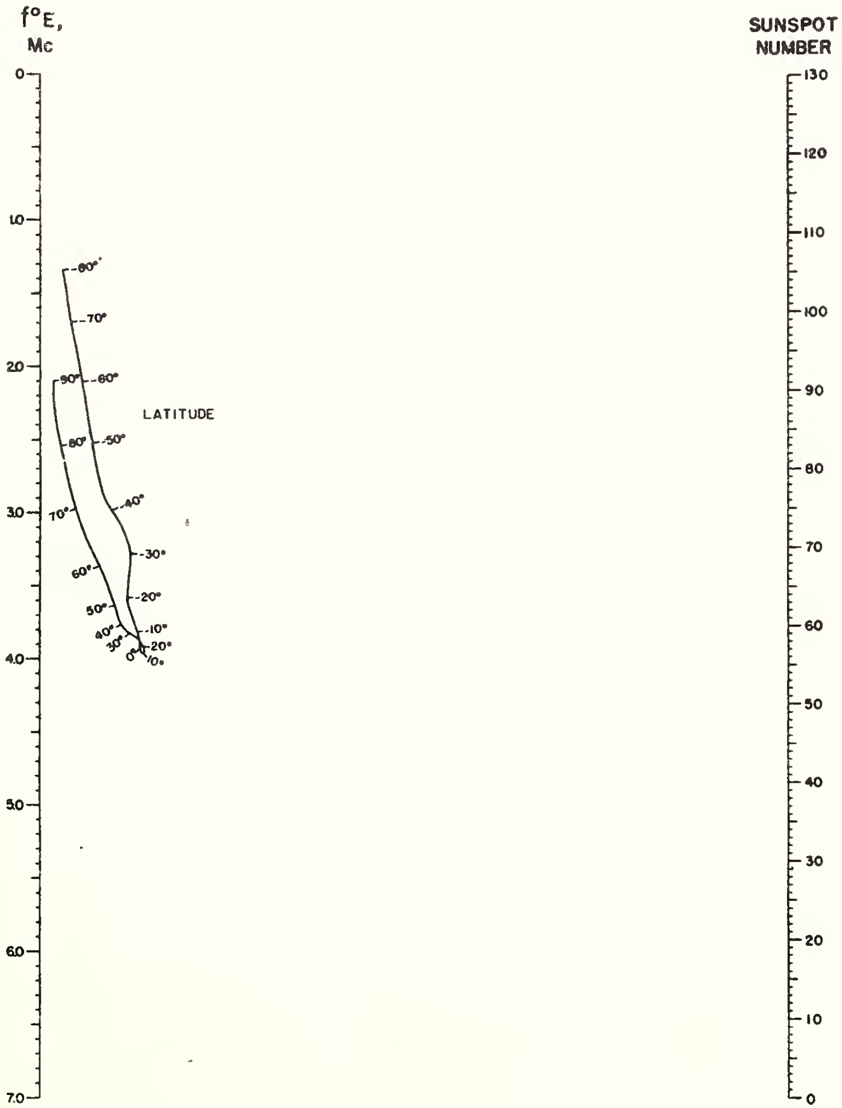


Fig. 110. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, JULY.

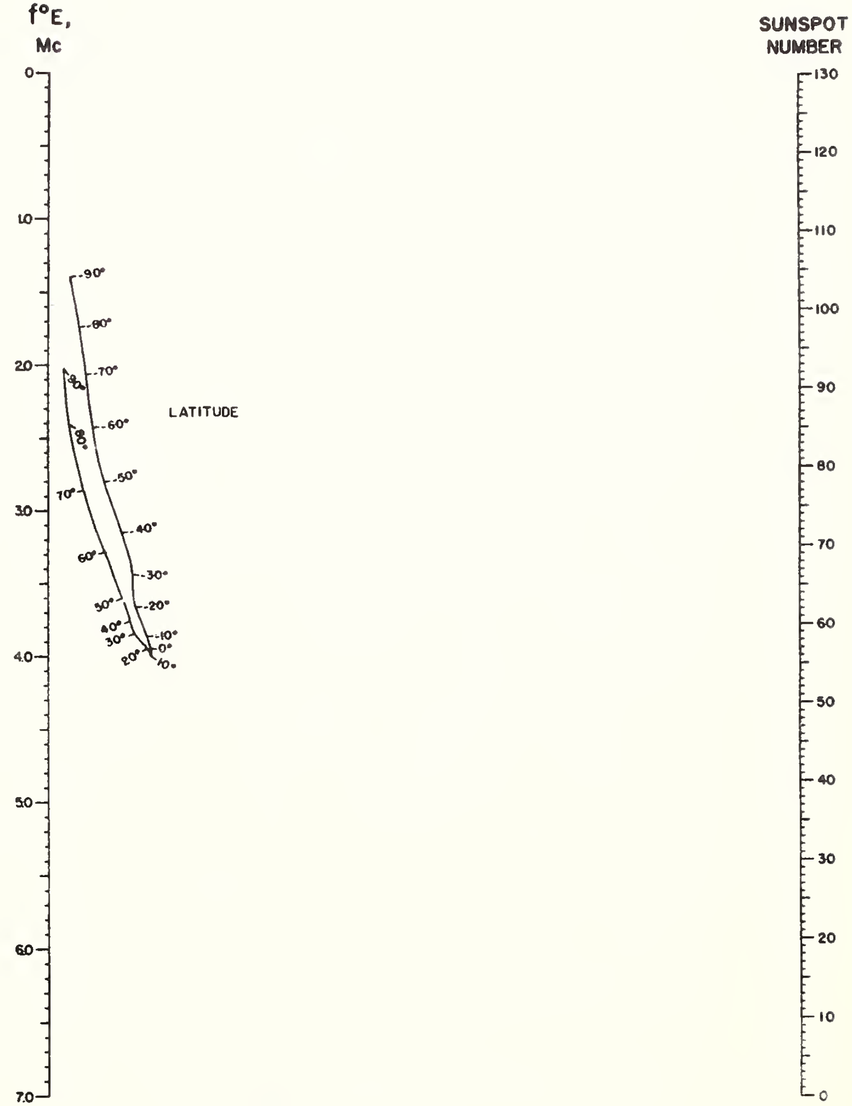


Fig. 111. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, AUGUST.

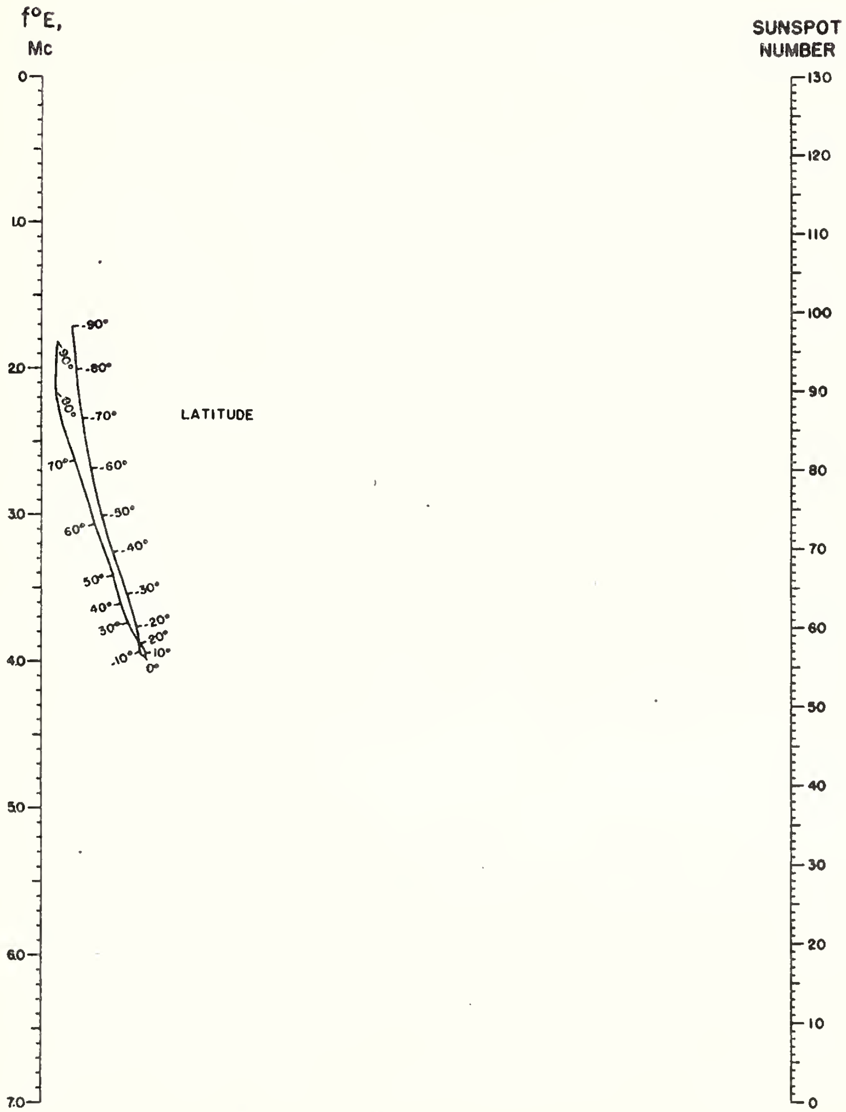


Fig. 112. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, SEPTEMBER.

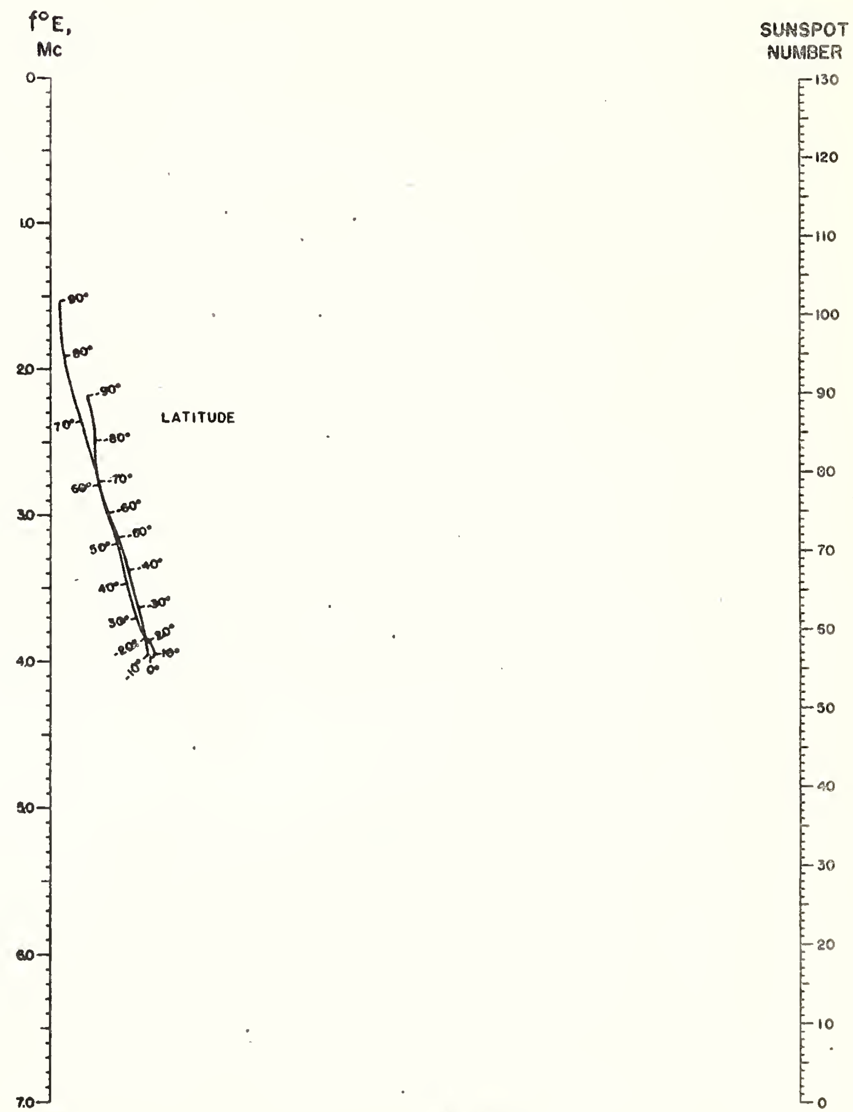


Fig. 113.. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, OCTOBER.

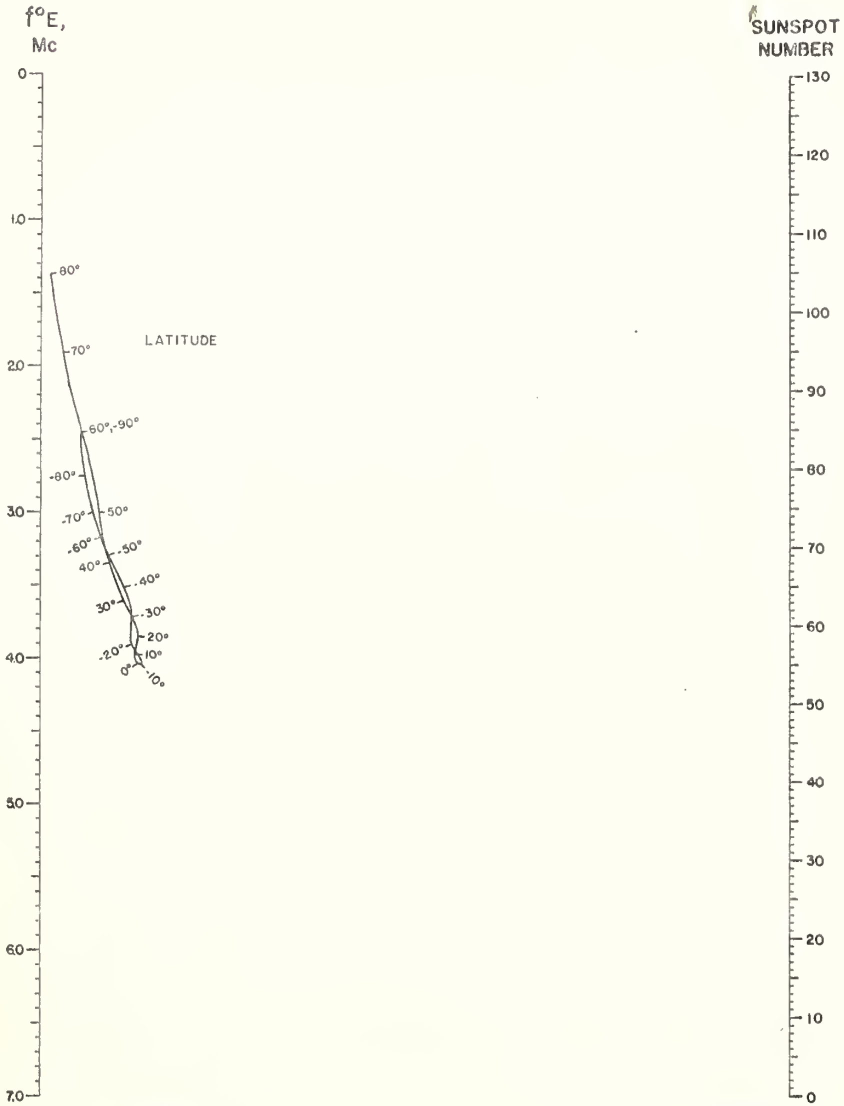


Fig. 114. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, NOVEMBER.

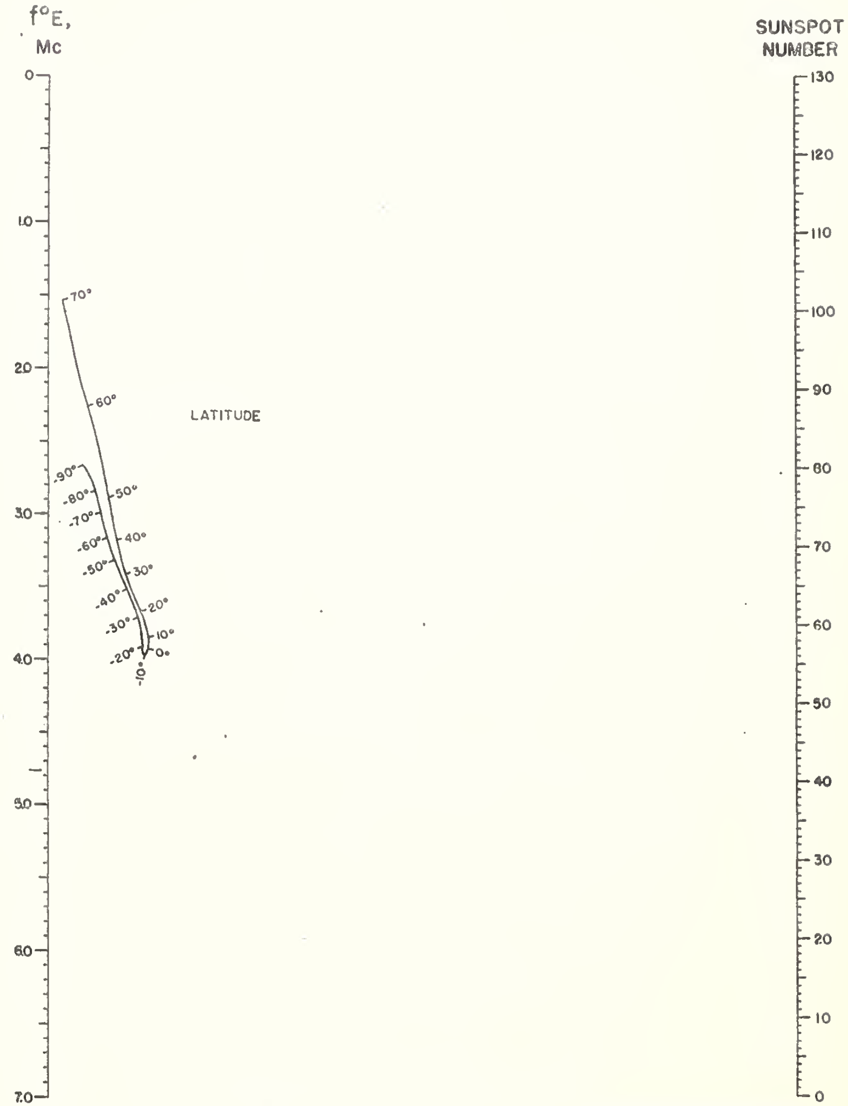


Fig. 115. LATITUDE VARIATION OF f°E WITH SOLAR ACTIVITY, 1200 LOCAL TIME, DECEMBER.

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